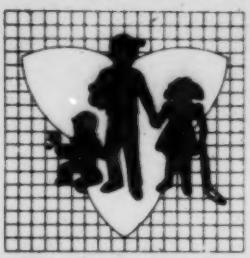

Child Care

Factors Related to Quality in Child Care:

A Review of the Literature

REVISED EDITION

Ministry of Community and Social Services
Ontario

March 1991

FACTORS RELATED TO QUALITY IN CHILD CARE:

A REVIEW OF THE LITERATURE

Prepared for the Child Care Branch

Ontario Ministry of Community and Social Services

by

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EXECUTIVE SUMMARY

An estimated 1,275,756 mothers of children under the age of six were in the paid workforce in Canada in 1989 (National Child Care Information Centre, Health and Welfare, Canada, 1990). Most of these mothers probably used substitute child care. There is a growing body of research which indicates that poor quality child care has detrimental effects on the child's physical health, emotional well-being, and social development.

Three main areas of concern have been identified in the professional literature related to child care: that the enrollment of children under age one may disrupt the development of a secure infant-mother attachment; that children who are in child care become more aggressive and non-compliant than those who do not have this experience; and that children in child care have more infections than their peers raised at home. A review of the research does not support a conclusion that enrollment in child care either interferes with the development of the infant-mother attachment or necessarily results in children becoming aggressive or non-compliant. As noted by Phillips & Howes (1986), 20 years of research indicates that children in good quality care show no signs of harm. However, they stress that "the key to this basic conclusion lies in the term good quality" (page 1). It does, however, appear that children in child care are more vulnerable to infections as a result of exposure to large groups of other children. However, again quality counts. Black et al. (1981) were able to demonstrate a 50% reduction in diarrhea when rigorous child and caregiver handwashing was enforced in a number of community child care centres.

When children from child care programs which have a high rating on a global scale of quality are compared with children from programs with a lower rating, the former children are found to have: greater social competency; higher levels of language development; higher developmental levels of play; better ability to self-regulate; greater compliance with adult requests; and fewer behaviour problems in grade school according to teacher perception.

Quality can also be examined by comparing randomly selected programs to determine the child's experience and development in them and then relating the findings back to differences in discrete program characteristics. In reading through reports of research studies of this type it is evident that individual indicators of quality can be grouped into categories and that there is a relationship

between categories. The diagram on the following page illustrates the categories, and their indicators, which will be discussed in this paper and the way in which categories influence each other.

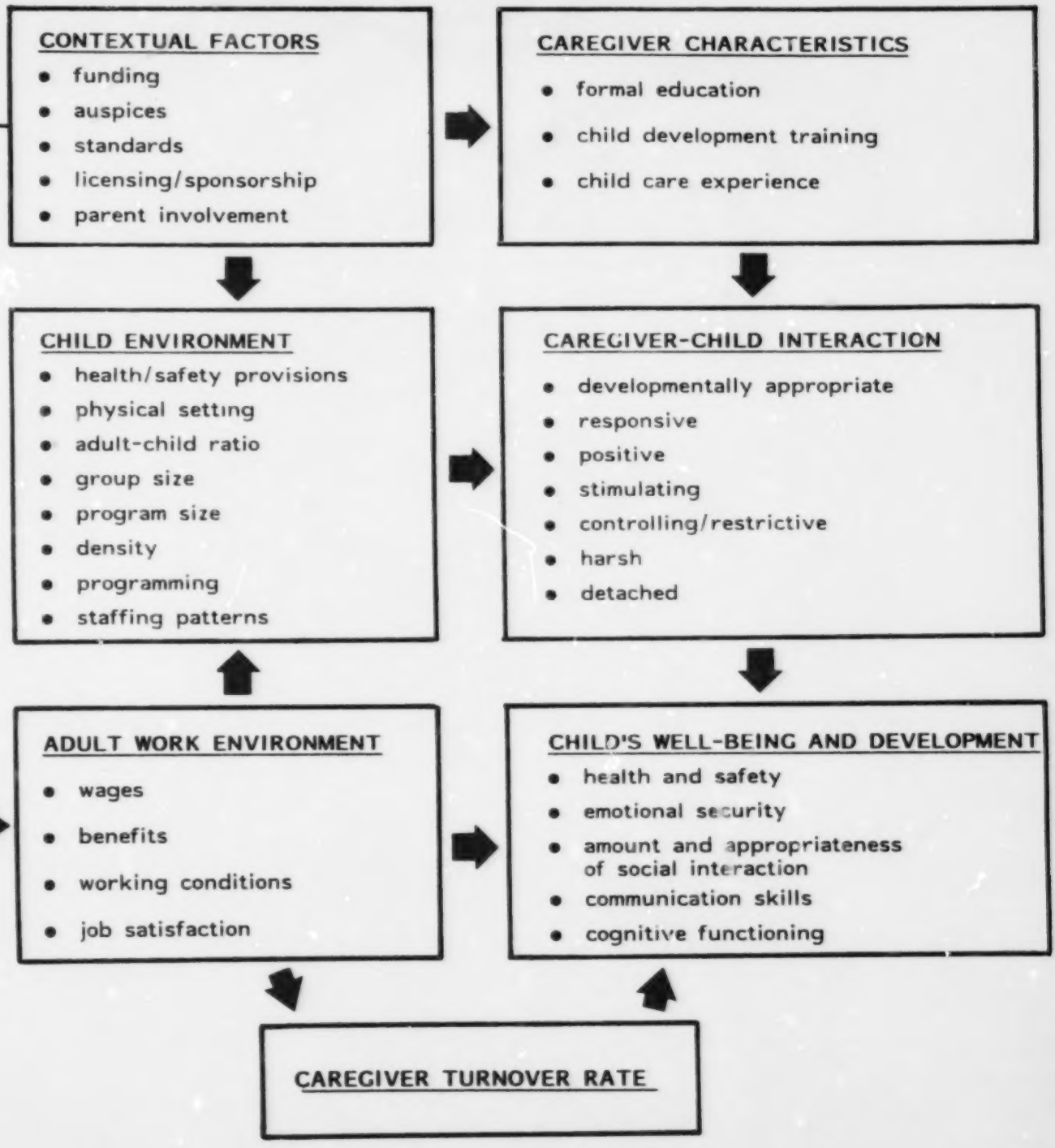
The interaction between caregiver and child is probably the most important indicator of quality. When children who are being cared for by caregivers who react appropriately and promptly to them are compared to children whose caregivers are not so responsive, the former group has been found by research to have higher levels of cognitive and language development and better social competence. The amount of positive interaction between caregiver and child has been found to be associated with children who show greater emotional security, higher levels of language development, more advanced cognitive development, and better task orientation than children whose caregivers have less or not as positive interaction with them. Caregiver informative verbal exchange refers to giving reasons or explanations, reading to children, etc. The amount of caregiver informative verbal exchange with children has been found to be significantly associated with the levels of the child's language skills, social competence, and cognitive development. Caregiver restrictive or controlling behaviour is associated with children who have poor language development, perform poorly on cognitive tests, and have problem behaviours when older. When children being cared for by uninvolved and disinterested caregivers are compared to other children, they have been found to have poorer language development and developmentally less complex levels of play.

Research clearly indicates that caregivers with some college education and/or post secondary school training in child development or early childhood education exhibit higher rates of positive caregiver behaviours than do caregivers who have only a high school diploma or less. They are also more likely to provide developmentally appropriate activities for the children and children in their care receive higher scores on various measures of child development. There has been some debate in the child care field as to whether years of formal education per se or specific training related to child care is the more potent predictor of good quality child care. A review of the research suggests that specific training is crucial and that it is probably also beneficial that this be at the post secondary school level.

The child care environment is also a crucial factor in determining whether or not quality exists. Research indicates that hand washing is the single most important technique for reducing the likelihood of infections. The physical setting itself must also be safe, for example, have barriers to prevent access to unsafe places.

DIAGRAM 1

MODEL FOR EXAMINING QUALITY IN CHILD CARE



KEY : ⬆ = PREDICTS

Research studies show that a small number of children per caregiver is associated with the provision of appropriate activities, caregivers who are responsive to the children's needs, and who engage in more social, verbal, and cognitive stimulation than caregivers in situations with a larger number of children per adult. A large number of children per caregiver is associated with more incidents of infants exposed to danger, caregivers who are harsh with the children, a larger percentage of caregiver time spent in controlling the child or in routines such as toiletting, and higher levels of reported job dissatisfaction. Job dissatisfaction, in turn, is associated with high turnover rates and resultant discontinuity for the child. As might be expected, the caregiver-to-child ratio also has an impact on the child's behaviour. Situations where there are a large number of children per caregiver have been found to be associated with children who have a short attention span, poor verbal skills, show high rates of negative behaviour towards other children, and are apathetic.

The findings of research studies that have looked at the impact of group size have been contradictory. However, it appears probable that a smaller group is preferable to a larger group. Research has shown consistently that large centres are more likely to be associated with undesirable caregiver behaviour and child outcomes than are small centres. The research findings suggest that programs probably should not have much in excess of 60 children. Conditions of high density (large number of children in the available space) have been found to be associated with higher rates of caregiver controlling and restricting behaviour and lower rates of caregiver and child interaction. Children in high density situations, when compared to those in lower density situations, tend to engage in more unoccupied behaviour, less cooperative or associative play with peers, to be more aggressive, and to engage less frequently in activities requiring concentration than children in programs with lower density.

The presence of organized activities and routines, rather than simply free play, is associated with higher scores on tests of cognitive and/or language skills. Programming needs differ with the age of the child, therefore, school-age children require a different program from preschoolers. Cultural appropriateness is also essential for a quality program.

The adult work environment is directly related to job satisfaction. Salaries at the high rather than the low end of the continuum have been found to be associated with higher job commitment and lower staff turnover rates. Favourable caregiver-to-child ratios, provision of input into centre policy and program development, regular staff meetings to discuss work issues, and regular provision of

a short break in the morning and afternoon also have been found to contribute to job satisfaction. Job dissatisfaction has been found to be associated with a greater potential for caregiver abusive behaviour towards the children and a low rating for the centre on a global measure of quality.

The contextual factors which impact on quality are: funding; auspices; standards; licensing/sponsoring in family-based child care; and parent involvement. Quality requires sufficient funds to obtain and retain qualified caregivers, to provide favourable caregiver-to-child ratios and group sizes, and to ensure a safe environment which has adequate amounts of appropriate equipment and materials. Both Canadian and American research has found that for-profit status is associated with a greater likelihood that the program will fall short of government standards or have complaints lodged against it. Caregivers working in for-profit centres also tend to have lower salaries than those in non-profit programs. However, it must be recognized that there are quality for-profit programs just as there are poor quality non-profit programs. Programs which meet high standards, such as those required for accreditation, have been found to employ caregivers with higher levels of education, to have caregivers who are responsive to the children and engage in appropriate caregiving, to have lower turnover rates, and higher ratings on global measures of quality. Therefore, it appears that the presence of high standards contributes to the likelihood of quality programming. In a similar fashion, family-based providers who are sponsored by licensed agencies or themselves seek and obtain a licence, tend to obtain higher ratings on global measures of quality than those who are not sponsored or licensed.

There appears to be no research which has examined the impact of parents in a formal or operational decision-making capacity. However, the professional literature consistently emphasizes the importance of open and regular parent and caregiver communication. Some jurisdictions, such as California, require daily caregiver-parent communication and regular formal conferences to review the child's progress. A number of key informants stressed the need to educate parents to be informed consumers and to ensure that there is an easily accessible mechanism to receive and address parent complaints.

There are three main mechanisms for promoting and sustaining quality child care: regulatory methods; voluntary standards of professional practice; and other methods such as user and caregiver education. Regulatory methods and voluntary standards both require that the standards be: clearly and unambiguously worded; deal with indicators known to effect quality; observable, measureable, and enforceable; and enforced.

CHAPTER I

INTRODUCTION

Background

According to the National Child Care Information Centre (Health and Welfare, Canada, 1990), an estimated 636,398 mothers of children under the age of three in Canada were in the paid workforce in 1989. An additional 639,358 mothers of children between the ages of three and six years were also employed. Many of these parents require full-day child care. Working mothers of older children also have a need for child care before and after school. In the opinion of acknowledged Canadian experts in the child care field, workforce participation of mothers, and hence the need for child care, is likely to increase (Friendly, 1986; Lero & Kyle, 1989; Pence & Goelman, undated).

There is a growing body of research indicating that poor quality child care has detrimental effects on the child's physical health (Black et al., 1981; Pickering et al., 1986) and emotional well-being and social development (Francis & Self, 1982; Howes, 1983; 1990; Peterson & Peterson, 1986; Vandell & Powers, 1983). The Ministry of Community and Social Services has made a public commitment to the development of a child care system that would "be of high quality and must support children's health, safety, and development" (**New Directions for Child Care**, 1987, page i). To honour this commitment, the Ministry requires:

- accurate information about the factors associated with quality;
- an understanding of how quality can be developed and maintained; and
- tools for assessing and measuring the extent to which quality exists in a given situation.

Much of the research related to quality in child care is of limited use to the Ministry because:

- the programs involved were exceptionally highly resourced demonstration projects serving socially disadvantaged Blacks or Hispanics in the United States and including a substantial parent education and/or home visiting component (e.g. Lazar & Darlington, 1982; Schweinhart, 1985). These cannot indicate what works or does not work in an ordinary child care setting in Ontario; and/or

- the researchers failed to control for differences in family background between the children receiving the "quality" program and the control group. Higher socioeconomic status has been shown to be related to higher social skills in preschoolers (Moore et al., 1988), higher cognitive functioning (Kontos & Fiene, 1986), and the likelihood that the child will be in a well-resourced quality program and thus benefitting from language and cognitive stimulation both at home and in the child care setting (Holloway & Reichhart-Erikson, 1988; Vandell et al., 1988). Years of maternal education have been shown to predict the child's cognitive functioning (McCartney, 1982; Melhuish, in press); language development (Goelman & Pence, 1987; McCartney et al., 1982) and academic progress (Howes, 1988).

Therefore, the Ministry commissioned this review to look at quality on the basis of studies examining a broad range of ordinary community-based programs which had controlled for family variables. It also requested that interviews be conducted with key informants in the child care field in both Canada and the United States.

The scope of the review

The review undertook to examine quality as it pertains to:

- centre-based and family-based child care;
- infants, toddlers, preschoolers, and school-aged children up to the age of 12; and
- special needs children.

The operational definition of quality used in this review

As noted by Ruopp & Travers (1982), how one views quality depends on one's view of the function of child care. If its purpose is primarily to stimulate workforce participation, quality may be defined as the number of places available, even if they offer only custodial care. If child care is viewed primarily as a service to parents, quality may be defined as a safe environment, close to home or work, which is reliable, affordable, and has flexible hours of operation. Following the lead outlined in **New Directions for Child Care** (Ministry of Community and Social Services, 1987), quality child care was defined for the purposes of this review as that which supports and facilitates the child's physical, emotional, social and intellectual well-being and development and supports the family in its child-rearing role.

The attributes of positive emotional and social development are culturally defined. Thus what is desirable self-assertiveness in one culture may be seen as lack of cooperation or aggressiveness in another. Throughout this review the author's understanding of what is considered desirable in mainstream Canadian society was used as a yardstick for judging a program outcome as desirable or undesirable. Therefore, as an example, a tendency towards non-compliance in children attending child care settings with certain characteristics is deemed to be an undesirable program outcome.

Methodology

Relevant literature was sought through:

- the Childcare Resource and Research Unit of the Centre for Urban and Community Studies, University of Toronto;
- the Ontario Prevention Clearing House (Child Abuse and Neglect data base, Dialog data base); and
- the Current Index to Journals in Education; Resources in Education (ERIC); Psychological Abstracts; Sociological Abstracts; and Dissertation Abstracts.

The initial search included the past 15 years and material from Canada, the United States, the United Kingdom, and Western Europe. A total of 52 key informants from across Canada, the United States, and England were approached for unpublished materials and their opinions on what is required to produce quality in child care. Letters seeking information and/or unpublished materials were sent to an additional 17 people (see Appendix A for the list of key informants). Three hundred and twenty-four documents were reviewed during the course of the background reading.

Format of this paper

The paper begins with a discussion of the impact of child care per se. Particular reference is made to concerns that enrollment in child care during the first year of life may be detrimental and to the finding that children in child care tend to have a higher incidence of infections than age-mates raised at home. The following chapter (Chapter III) discusses quality as a global construct and reviews the research findings which demonstrate that the extent to which quality is present does

make a difference. In recognition that global assessments of quality are of limited use to policy makers who seek to influence specific program features, Chapters IV to IX focus on individual factors associated with quality, such as the amount and type of caregiver and child interaction. Finally, issues of assessing and measuring the extent to which quality exists in a given child care situation, and the development and maintenance of quality, are addressed in Chapter X.

Other comments about this paper

In order to be applicable to the general child care system, the studies cited in this paper involve child care programs which are community-based, that is to say they are not unusually well resourced demonstration projects, unless specifically indicated. Most studies were conducted in North America, however, some material from Bermuda, England, New Zealand, and Sweden is also included. The rationale for so doing is that if the same factors are found to be important for children's well-being and/or development in several countries the case is strengthened for believing them to be important. The majority of studies cited in the paper were conducted in the past decade. This reflects the fact that researchers did not turn their attention to the issue of indicators of quality until the late 1970s.

For ease of reading, the details of the child and program sample, the specifics of the methodology used, and the actual degree of statistical significance obtained are not reported in this paper. Instead, in regard to studies which pertain specifically to the issue of quality, this detailed information is provided in a separate annotated bibliography. Readers seeking additional information about the research studies cited in this report should refer to this other document. When associations are reported in this paper, or the term "predict" is used, as in "x" was found to predict "y", it should be assumed that there was a statistical significance at the .05 level or better. This means that the probability of the relationship between the two items having occurred by chance is less than 5 in 100. Within the scientific community this level of significance is taken to indicate that the relationship is probably the result of the experimental variable.

A standard protocol was used for most key informant interviews (see Appendix B). The opinions expressed in these interviews are incorporated in the text, alongside the research findings, rather than appearing as a separate section.

CHAPTER II

THE IMPACT OF CHILD CARE ON CHILDREN'S WELL-BEING AND DEVELOPMENT

Background

There are three main areas of concern identified in the professional child care literature, namely:

- that the enrollment of children when they are under the age of one may disrupt the development of a secure infant-mother attachment. This would not be compatible with the child's emotional well-being and might have a negative effect on later social skill development;
- that children who have been in child care sometimes have been found to be more aggressive, more non-compliant, more socially withdrawn, and less tolerant of frustration when they are older than children who have not been in child care; and
- that children in child care have been found to experience more infections than age-mates being reared at home.

This chapter discusses these issues and presents evidence that the negative effects suggested above are not the inevitable result of the child being in child care. Instead, when they occur, they reflect factors such as: poor quality caregiving; instability of substitute caregiving; a specific program approach; or family background, e.g. parental stress.

The impact of being in child care on the infant-mother attachment

One of the concerns regarding child care for young children is based on the fear that the infant who experiences prolonged daily separation from the mother may fail to bond with her or do so in a weak fashion (Rutter, 1982). Psychiatrists and psychologists have theorized that a strong bond with the parent is necessary for the child to form relationships with others which, in turn, is required for basic socialization and to enable the child to cope with future anxiety and frustration (Ainsworth et al., 1978; Bowlby, 1969; 1973). There is also some research showing that children who are classified as having a secure attachment to their mother as infants are more socially competent as preschoolers than age-mates whose attachments were characterized as being insecure (Arend et al. 1979; Bretherton, 1985) and have greater problem solving ability (Matas et al., 1978).

In 1986 Belsky, a respected American academic and researcher with many years experience in the child care field, caused a controversy in the public press when he wrote an article in which he stated:

> "a relatively persuasive circumstantial case can be made that early infant care may be associated with increased avoidance of mother, possibly to the point of greater insecurity in the attachment relationship, and that such care may also be associated with diminished compliance and cooperation with adults, increased aggressiveness, and possibly even greater social maladjustment in the preschool and early school-age years."
>
> (Page 6, Belsky's emphasis)

First of all, it should be noted that Belsky does not assert that infant child care will necessarily have a negative impact, instead he is raising the concern that it might have. Secondly, it should be noted that several experts have questioned the validity of the methodology used in many of the studies concluding that infants in child care have less secure attachments to their mothers than do home-reared infants. Thirdly, not all studies comparing infants in child care with those not in child care have found differences in their apparent attachment to their mothers. Finally, not all studies comparing the social development of children who were in child care as infants with those who were not have found that the former exhibit behaviour problems. In fact, several studies indicate that there is no difference between the two groups or that children who were in child care as infants show higher levels of development when tested in preschool or grade school.

Most of the research examining the strength of the infant-mother attachment uses a procedure in which the baby is subjected to a series of brief separations and reunions with the mother and a stranger in a strange room (the "Strange Situation", Ainsworth et al., 1978). The child who fails to greet his mother in a positive way at reunion, or who ignores her return, is considered to have an insecure attachment. Chess (1987), Clarke-Stewart (1989), Rutter (1981), and Thompson (1988) all point out that the situation is highly artificial. Furthermore, it depends on creating a situation in which the infant feels moderately stressed because of being left in a strange room with a stranger. However, infants in child care are used to daily separations from mother. Therefore, their tendency to simply carry on with what they are doing when she re-enters the room in the Strange Situation may simply reflect this.

Thompson (1988) also notes, as does Belsky in a subsequent article (1988), that not all studies using the Strange Situation to compare infants in child care with those who are not have found the

former to exhibit behaviour that is classified as "less secure". Phillips et al. (1987), in a direct response to Belsky, report on a meta-analysis* of 14 studies using the Strange Situation which found no difference between infants in child care and home reared infants. Rutter (1982), a child psychiatrist, concluded after a review of 9 studies that showed no difference in infant-mother attachment between infants in child care and those who were not that:

> "not only do day care children develop emotional bonds in much the same way and at much the same time as children reared at home, the main bonds are usually with the parents rather than the day care staff. There can be reasonable confidence in this finding in that the results are so consistent across a variety of different ways of assessing attachment in both naturalistic and laboratory settings"
>
> (page 5)

Where a difference has been found between infants in child care and those who are not in apparent infant-mother attachment the reason may be something other than being or not being in child care. Gamble & Zigler (1986), in their review of the effects of child care concluded that "in families facing significant life stresses, substitute care during the first year of life increases the likelihood of insecure parent-child attachments" (page 35). In other words, they suggest that insecure attachment is the result of <u>both</u> early entry into child care and family stress, not simply child care before age one. The quality or stability of the child care arrangement may also be factors. One study (Vaughn & Grove, 1980), upon which Belsky relies heavily as reason to suspect less secure attachments to mother in infants who are in child care, involved infants from low-income, mostly single-parent families. The children were looked after by neighbours or relatives who had similar living situations and the children also experienced frequent changes in caregivers.

---

* A statistical method for analyzing the combined results of multiple studies.

The impact of being in child care on social development

Belsky (1986; 1987) has specifically indicated that his concern is restricted to children enrolled in child care before their first birthday. The findings in regard to later negative social behaviours by such children are contradictory. They suggest that other factors, such as quality, stability, or program orientation, may be as or more important than the fact the child entered child care as a young infant.

As noted by Belsky (1986), the first longitudinal follow-up of children who had entered child care prior to age one found that as three- and four-year olds they were significantly more physically and verbally aggressive with adults and with peers, less cooperative with adults, and less tolerant of frustration than a matched control group without such experience (Schwarz et al., 1974). Similar findings in regard to aggression and non-compliance are reported by Farber & Egeland (1982), Field et al. (1988), and Haskins (1984). Lower compliance is reported by Rubenstein et al. (1981) and more aggression by McCartney et al. (1982). However, other studies using similar measures have not found greater aggression or less compliance among children who entered child care before age one versus those who entered later (Golden et al., 1979; Macrae & Herbert-Jackson, 1976).

Howes (1990) compared two groups of children enrolled in "high quality care" *, one group prior to and the other subsequent to their first birthdays, with two similar groups enrolled in "low quality care" on a variety of measures of social behaviour when they were 18, 24, and 36 months of age. Statistical analysis indicated that there were no differences between early and late enrollment children which could be attributed to age of entry. However, there were several quality-of-care effects. Children who had entered poor quality care as infants were significantly less compliant as toddlers, were rated as having more difficulty with peers when they were preschoolers, and in kindergarten were rated by their teachers as more hostile than the children who had entered high quality child care centres before age one.

McCartney et al. (1982) found that aggression, as well as hyperactivity and anxiety, was predicted by a combination of entry in child care before age one and the quality of the child care setting. The children with high ratings on aggression had both entered substitute care at an early age and been enrolled in programs where there where low levels of verbal interaction between the caregivers and the children. As is discussed in Chapter V, the amount of verbal interaction

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* Quality was defined on the basis of caregiver-to-child ratio, the proportion of caregivers with specific training in child development, and the extent of staff turnover.

between caregivers and children is a major indicator of quality. Cochran & Gunnarson (1985), in a four-year follow-up, found no difference between a group of children who had been in continuous centre-based child care since nine months of age and a matched control group of home-reared children. They did, however, find that boys in both settings were significantly more aggressive with peers than were girls. This study took place in Sweden where workers in centre-based child care settings are required to have two or more years of specific child care training, group size for younger children is about 12, and the caregiver-child ratio for children under the age of two is 1:4 (Andersson, 1989). In summary, the above studies all suggest that whether or not children who were enrolled in child care prior to age one are later found to be more aggressive or less compliant than children without this experience depends, at least in part, on the quality of the child care they received.

All the studies cited above (Cochran & Gunnarson, 1985; Howes, 1990; and McCartney et al., 1982) involved children enrolled in a number of different settings. Findings of aggression or non-compliance may also reflect the specific orientation of a single centre. The Field et al. (1988), Haskins (1985), and Schwarz et al. (1974) studies all involved a single program, that is, the target children all came from one centre. In the Haskins study, the researcher concluded that the higher rates of aggression among the children in his experimental group (who had all been in the same centre) was a function of the highly cognitively oriented program they had received. He came to this conclusion after finding that there was no correlation between age of entry and aggression for children in his control group, and noting that they came from a number of different settings. Haskins' conclusion is supported by a study done by Finkelstein (1982). He compared two groups of children enrolled in a child care program with a strong emphasis on cognitive development, one group also received social skills training while the other did not. When the two groups were assessed just prior to entry into kindergarten, the group with the social skills training exhibited significantly lower levels of aggression.

The study reported by Macrae and Herbert-Jackson (1976), which did not find higher levels of aggression in children entering child care before their first birthday, was designed to replicate the Schwarz et al. (1974) study cited above. The replication was not exact since the Macrae & Herbert-Jackson children were only two-year olds while those studied by Schwarz et al. were four-year olds. Nevertheless, the production of very different results supports the suggestion by Macrae & Herbert-Jackson that findings generated in a single centre may be specific to that program.

Finally, instability of caregiving arrangement may also be a factor in the finding of later higher rates of aggression in children who entered child care before their first birthday. As noted by Phillips et al. (1986), at least 80% of the infants in the 1982 Farber & Egeland study cited above had experienced one or more changes in substitute care in their first year. With older children, Howes & Stewart (1987) found that those who had experienced frequent changes in child care arrangement were less socially competent with their peers. Conversely, in studies of concurrent social adjustment, infants and toddlers score higher when they are enrolled in child care arrangements with stable, as opposed to unstable, caregivers (Cummings, 1980; Howes & Stewart, 1987; Rubenstein & Howes, 1979).

In summary, a review of the research does not support a conclusion that entry into child care before age one is, in itself, associated with high levels of aggression or non-compliance in preschool or grade school. Instead, such negative social behaviour may reflect poor quality child care, instability of child care arrangements, or the impact of a particular program. Furthermore, other American studies have found that enrollment in child care before the age of one can have a positive impact. When compared with matched controls, children enrolled in ordinary community child care centres (as opposed to highly resourced demonstration programs) before the age of one have been found to have greater social competence with peers (Field et al., 1988; Macrae & Herbert-Jackson, 1976); to have better problem-solving skills (Macrae & Herbert-Jackson, 1976); and to obtain significantly higher scores on standard tests of language (Golden et al, 1978; Rubenstein et al., 1981). In Sweden, Andersson (1989) found that children entering child care before age one performed better than children who entered later or did not have child care experience on verbal tests of cognitive competence, received a more positive rating from elementary school teachers on social attributes such as persistence and independence, and were viewed as having had fewer problems with the transfer into elementary school.

Children enrolled in American child care centres at an older age have also been found to do as well or better than children without child care experience on various measures of social competence (Clarke-Stewart, 1981; Rubenstein & Howes, 1979). To quote Belsky once again, this time from an earlier (1984) review of the research:

> "In response to the science- and policy-oriented question "Is day care bad for children?" it seems appropriate to conclude that it is not and certainly does not have to be, but it can be."
>
> (page 6)

As noted by Phillips and Howes (1987):

> 20 years of research on child care allayed our worst fears that nonmaternal care was inevitably harmful to children. To the contrary, the overwhelming message was that children in good quality child care show no signs of harm." However, "the key to this basic conclusion lies in the term good quality."
>
> (page 1)

Child care as a prevention program

In a recent publication, Better Beginnings, Better Futures (1989), the Ministry of Community and Social Services reviewed the success of some highly resourced demonstration preschool prevention programs, for example, those reported by the Consortium for Longitudinal Studies (1983). One Project, the Perry Preschool Program, found that there were significant differences at age 19 favouring the group which had received the Program, versus a control group which had not, on school drop-out rates; criminal charges; receipt of welfare; and being in school, vocational training, or college (Berrueta-Clement et al., 1985). However, these programs were conducted by skilled researchers with ample access to funds and usually involved a significant family education and/or home visiting component (Haskins, 1989). As such, they are not easily replicated in an ordinary community or in a situation of working parents.

A more modest American program was conducted by Ramey and his associates over a number of years and involved several successive groups of children deemed to be at risk for school failure due to socioeconomic and family factors. The experimental group received a full-day, year-round program from a university-affiliated centre beginning at 6 weeks to 3 months of age. There was no parent education or family visiting component. A closely matched control group, including being matched on initial Bayley scores (a measure which estimates intelligence), did not receive the Program. By age 5, the experimental group of children had significantly higher I.Q. scores than did the control group, though not higher than their original scores. Tests at 42 months of age, which were not repeated later, found that the child care children had significantly better verbal abilities, a better grasp of numerical concepts, and better ability to carry out complex cognitive tasks (Ramey et al., 1983; Ramey & Campbell, 1979). As noted by Ramey et al., the findings should not be interpreted as indicating that a good preschool program can increase a child's intelligence. Instead, what appears to happen is prevention of the decline in intellectual functioning which typically

occurs around age two in culturally deprived children. The stimulation of the preschool program helps the child in the task of switching from concrete to abstract reasoning and prepares the child to cope with the demands of the school setting.

The results are less clear in two Ontario programs which tried to compensate for children's low socioeconomic status through fairly ordinary child care experiences. Fowler (1978) used a municipally operated centre with a caregiver-to-child ratio of 1 to 2.7 for infants and 1 to 5-6 for toddlers. He devised a specific child development program with a heavy emphasis on the development of cognitive and language skills and provided on-going consultation to the caregivers in its implementation. Parents were visited at home every two or three months and there were periodic evening parent meetings at the centre. The average age of entry into the Program was 11 months. As each child entered the Program, a comparable home-reared infant was selected as a control matched by age, gender, intelligence level, parent education, parent occupational level, and ethnicity. By age 36 months, the children receiving the Program had significantly higher scores than their matched control on a comprehensive test measuring self-care skills, receptive and expressive language skills, problem-solving, and reasoning. However, at age 5 there was no difference between the experimental children and their controls. Fowler attributes this finding to high staff turnover in the centre's preschool section throughout the Project, a much higher child-to-caregiver ratio in the preschool section (1 to 9), and caregivers whose training had better prepared them for looking after infants than for providing cognitive and language stimulation for toddlers and preschoolers. In other words, he suggests that the quality of the infant and toddler section of the centre was higher than that of the preschool section.

Wright (1983) operated a specially designed university-based program which deliberately mixed a group of low socioeconomic culturally deprived children with a group of children whose parents were university faculty members, professionals working in the community, or university students (categorized as the high socioeconomic status group). Children entered the program at age 3. There was no special parent education component although there were three or four meetings with parents each year. By the end of their second year, the subgroup of culturally deprived children who had entered the Program with an I.Q. score in the normal range (mean was 94.7) were performing as well as the high socioeconomic status children on various tests of cognitive functioning, numerical ability, language skill, and problem-solving. The other group of culturally deprived children, who entered the Program with an I.Q. score below normal (mean was 81.7), had also made gains but did not function as well as the high socioeconomic status children. Since the

mean I.Q. of the high socioeconomic status children at the time of entry into the Program was 110.8, the above findings suggest that the Program was indeed beneficial for the culturally deprived but normal range I.Q. children.

Instead of continuing to use the high socioeconomic children as a control group for follow-up in elementary school, Wright selected a new group of children from low income, low socioeconomic families who had not received any preschool programming. She matched this new control group with her experimental group on the basis of the I.Q. scores which the experimental group had obtained just prior to admission into the special preschool. However, at this point, the experimental group had higher I.Q. scores than they had obtained two years previously. Therefore, the extent to which the new control group was matched on intelligence is questionable. Consequently, it is difficult to interpret Wright's finding that throughout the follow-up period, to the end of grade five, the experimental group children consistently performed better than the control group on tests of language skills and problem solving, consistently were rated by teachers as showing better academic performance, and had fewer incidences of being retained a grade.
The research by Ramey and associates, and the two Ontario studies, suggest that high quality child care programs may be able to compensate for cultural deprivation without a heavy investment in concurrent parent education and/or home visits. Given the reality of working parents, this is an important finding.

Child care and the greater prevalence of infections

Canadian and American writers agree that children in either centre-or family-based child care have more incidents of respiratory and
other infections and of diarrhea than children of the same age being cared for at home (Canadian Paediatric Society, 1988; Esbensen, 1985; Hadler et al., 1982; Haskins & Kotch, 1986; Henderson & Giebink, 1986; Snow, 1983). Many viruses and bacteria are capable of surviving in large numbers for significant periods of time on furniture and other surfaces or in the air. The repeated close proximity of children in child care means that the child is exposed to large amounts of infectious material being transmitted by other children who are either in the incubation pre-symptom stage or recovering from an infection. This reality is of particular concern in regard to infants since they have not yet developed natural immunity.

The extent to which infections or diarrhea actually occur is a function of:

- the extent to which caregivers are conscientious about hand washing and other sanitary procedures. Diarrhea has been shown to decrease by 50% when child and caregiver hand washing is rigorously enforced (Black et al. 1981);

- centre size. A small centre has a greatly reduced risk of infectious disease (Hadler et al., 1982; Pickering & Woodward, 1982); and

- group size. A group size of more than four children under age 3 is associated with increased incidence of diarrhea, hepatitis, respiratory infection, and influenza (Canadian Paediatric Society, 1988).

The Canadian Paediatric Society stresses the importance of staff training to reduce the risk of infections, and suggests that a primary caregiver should be assigned to children who are not yet toilet trained in order to reduce the number of paths of possible transmission of disease. The Society also recommends low caregiver-to-child ratios as a means of reducing risk. Ford-Jones et al., from the Hospital for Sick Children, suggest ratios of 1:3 for infants and 1:4 for toddlers (undated). As noted by Zigler & Muenchow (1986):

> "Quality counts: good day care may play a positive, even preventive, role in the control of infectious diseases, and poor day care is harmful."
>
> (page 4)

Summary

A review of the research does not support a conclusion that enrollment in child care under or over the age of one either interferes with the development of a strong infant-mother attachment nor necessarily results in children becoming aggressive or non-compliant. Negative social behaviours shown by children who have been attending child care appear to be the result of one or more of: poor quality; frequent changes in the child's substitute care arrangements; or the orientation of a particular program. The literature does indicate that children in child care are more vulnerable to infections. However, Black et al. (1981) were able to demonstrate a 50% reduction in diarrhea when rigorous child and caregiver handwashing was enforced. As noted in the Ministry's recent document **Better Beginnings: Better Futures** (1989) good quality child care programs have successfully been used in prevention.

CHAPTER III

QUALITY AS A GLOBAL CONSTRUCT

Background

Examination of the impact of quality on children's well-being and development in child care has been approached both from the point of view of quality as a global construct and from the point of view of discrete indicators of quality. This chapter discusses the findings of studies which have looked at the global construct. The methodology of these studies involves either:

- o combining discrete indicators into a composite measure of "quality" for example, caregiver-to-child ratios and staff turnover, then looking at the children's development to determine if there are differences between programs rated as having different levels of quality; or
- o the use of a global rating scale, such as the Early Childhood Environment Rating Scale (ECERS),* then examining the children's development for differences between programs with low and high scores.

Historically, the above approaches relied primarily on informed opinion as the basis for classifying a program as having high or low quality. This is no longer true in regard to the development of a composite measure. Howes & Olenick (1986) and Howes (1990), in constructing their composite measure of quality, relied on previous research which indicated that caregivers with specific training in child development, low child-to-caregiver ratios, and low staff turnover were each associated with positive child development.

Quality can also be examined by comparing randomly selected programs to determine the children's experience and development in them and then relating the findings back to differences in discrete program characteristics. Studies which use this approach enable a more precise identification of what it is about a program which has the desired effect. The findings of this type of study are discussed in the following chapters.

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* The ECERS (Harms & Clifford, 1980) examines the extent and/or appropriateness of the following program dimensions: personal care routines for children; creative activities; language/reasoning activities; furnishings and equipment and their use; fine and gross motor activities; the stimulation of social development; and the way in which the needs of adults (caregivers and parents) are met. Summing the scores across these seven dimensions generates an overall assessment of quality.

Concurrent impact, centre-based child care

The largest study to use a global rating of quality (the ECERS) to examine the concurrent impact of child care programs was conducted by Phillips et al. (1987a) in Bermuda. It involved 166 preschoolers, all of whom had attended their centre on a full time basis for at least six months, and all nine centres on the island which enroled infants and had been in operation for four years or more. Phillips et al. controlled for the effect of the child's age, length of child care experience, and family background. Having done this, they found that overall centre quality, as measured by the total score on the ECERS, was directly correlated to higher levels of language development as measured by standard tests and an observational system; higher parent and caregiver ratings of the child as considerate; higher ratings of child sociability on a standard test; and higher ratings of the child's ability to remain focused on a task. They also found that children in the centres with higher ECERS scores were rated by their caregivers on a standard test as being more anxious. However, as noted subsequently by Phillips et al. (1987b), none of the children so identified could be considered over-anxious. The highest anxiety score obtained was 2.67. The authors of the scale that was used do not consider a child to be "anxious" unless their score is 6.73 or more.

Another study which used the ECERS was conducted in Victoria, British Columbia, by Goelman & Pence (1988). They studied 53 children in 25 centres and found no significant correlation between centre scores on the ECERS and children's performance on either of two language tests. This finding may reflect, as suggested by the authors, the fact that there was much less difference between the centres in Victoria than there had been in the Bermuda study. Another problem may have been failure to control for family background. Insufficient information is provided in the article to determine whether or not this was done.

Bjorkman et al. (1986) also used the ECERS as their determinant of quality. This American study looked at 20 four-year olds from two centres with high total ECERS scores and 20 from centres with low scores. The children were randomly selected from the centre, therefore, there was no specific control for family background. Bjorkman et al. found that males, but not females, had significantly lower rates of solitary play in high quality centres and engaged in greater amounts of positive social interactions with peers.

In a study which appears to have been done in Newfoundland, Peterson & Peterson (1986) defined quality on the basis of a two-day observation checklist which examined the availability of equipment

and activities; the amount of caregiver involvement or non-involvement with children; the overall program; and the physical environment. Their sample was 24 three- to five-year olds in four centres, two categorized as high quality and the other two as low quality. According to the researchers, there apparently was no significant difference between the two groups of children on family socioeconomic status or parental education. Peterson & Peterson found that children in the centres categorized as poor tended to limit their verbal interaction to single statements as opposed to the sustained dialogue found in the other two centres. The children in the "poor" centres were also more non-compliant with adult requests.

Quality was defined as adherence to an abbreviated version of an instrument used by Pennsylvania to monitor compliance with State regulations in a study by Kontos & Fiene (1986). They examined ten centres and a randomly selected group of 100 three- to five-year olds who had attended their centre for 20 hours or more a week for at least six weeks. Kontos & Fiene found that quality, as they measured it, significantly predicted the children's score on two standard tests which measured social competence.

Two other American studies defined quality by combining a number of indicators. Howes & Olenick (1986) used caregiver-to-child ratio; the presence or absence of caregivers with specific training in child development; and staff turnover. Vandell & Powers (1983) combined caregiver-to-child ratio; caregiver level of formal education (college or no college); toy availability; and square footage per child. The Howes & Olenick study involved 57 toddlers, 32 of whom were in centres deemed to be high quality and the remainder in centres categorized as low quality. The two groups of children were matched on age, gender, family structure (one- or two-parent), father's occupation, parents' years of education, and parents' ethnic background. Children in centres categorized as high quality were more compliant with adult requests and more able to refrain from touching a forbidden object.

The Vandell & Powers study involved six centres and 55 three- and four-year olds who had attended child care for an average of two years. All the children were from white middle-class families. They found that children in centres classified as low quality showed significantly greater amounts of solitary behaviour in contrast to the other children. Children in "high quality" centres showed larger amounts of positive behaviour with and towards adults.

Longitudinal impact, centre-based child care

Follow-up was conducted on the children in two of the above studies. Vandell et al. (1988) were able to locate 20 children who had been studied four years previously and were now eight-year olds. With the effects of family social class separated out by a statistical procedure, they found that children from centres which has been rated as having high quality spent more time in positive peer interaction and were rated by observers who did not know their child care history as showing greater social competence. Howes (1990), in a follow-up of the Howes & Olenick (1986) study, was able to locate 80 children, 53 of whom had been enroled in the "high quality" centres. The children were assessed while in preschool, at entry to kindergarten, and at conclusion of kindergarten. As preschoolers, children from the "high quality" programs engaged in higher developmental levels of play than children from the other settings. When assessed prior to entry to kindergarten, children enroled in "poor quality" settings were rated as having more difficulty with peers. At the end of kindergarten they were rated as more hostile, more distractible, less task-oriented, and less considerate of others. Howes also examined family characteristics. She concluded that among children enroled in child care before their first birthday, family socialization contributed little. The main predictors of kindergarten behaviour for this group were the child's own temperament and the quality of the child care they had experienced. For children enroled in child care after age one, differences in family characteristics were much more important in predicting future social behaviour.

Howes (1988), in a study unrelated to the previous one, examined children at the end of grade one on the basis of their academic progress relative to perceived-by-the-teacher ability; teacher-rated school skills, e.g. ability to follow directions, ability to remain focused on a task; and teacher rating of behaviour problems. Seventy-five children were involved, 49% of whom had attended "high quality", 30% "medium quality" and 21% "low quality" child care. The degree of quality was determined on the basis of a composite measure which included caregiver training in child development; group size; child-to-caregiver ratio; individualized programming; and the physical space. With family socioeconomic status, mother's education, family structure (one- or two-parent), and child's age of entry into child care controlled for by statistical analysis, Howes found that the quality of child care predicted the extent of the child's perceived school skills and the perceived presence or absence of behaviour problems.

Concurrent impact, family-based child care

Goelman & Pence (1988) studied child development as it related to the quality of family day care in Victoria, British Columbia. They used the ECERS-derived Day Care Home Environment Rating Scale, known as DCHERS, (Harms et al., 1983) to classify the family-based child care settings used in their research. There were 53 children, all of whom had been enroled in their present setting for at least six months and had attended at least 30 hours a week. According to the researchers, there was no difference on parent education, family characteristics, or family structure between the group of children enroled in the homes with high scores on the Day Care Home Environment Rating Scale (DCHERS) and the children enroled in the other settings. Children in homes with higher total scores on the DCHERS received significantly more information type verbal interaction from their caregivers and obtained higher scores on two standard measures of language development.

In the United States, Howes & Stewart (1987) used a later version of the DCHERS (Harms & Clifford, 1984) to rate 55 family-based child care settings and then observed the children in them using a standard rating scale. When the impact of family characteristics was statistically controlled, they found that higher quality was associated with more competent levels of play with peers, with caregivers, and with objects. There do not appear to have been any longitudinal studies of the impact of quality in family-based child care.

Summary

As noted by Phillips & Howes (1987), quality makes a difference to children's well-being and development in child care. The above studies indicate that programs with a high global assessment of quality are associated with children who have:

- greater social competency (Bjorkman et al., 1986; Howes, 1990; Kontos & Fiene, 1986; Phillips et al., 1987a; Vandell & Powers, 1983; Vandell et al., 1988);
- higher levels of language development (Goelman & Pence, 1988; Peterson & Peterson, 1986; Phillips et al., 1987a);
- higher developmental levels of play (Bjorkman et al., 1986; Howes, 1990; Howes & Stewart, 1987; Vandell & Powers, 1983);

- better ability to self-regulate (Howes, 1990; Howes & Olenick, 1986; Phillips et al. 1987); and
- greater compliance (Howes & Olenick, 1986); and
- fewer problems in grade school according to teacher perception (Howes, 1990).

Reflecting back to the discussion in the previous chapter as to whether or not having been in child care is associated with increased rates of non-compliance or aggression, it is interesting to note that children who were in centres deemed to be low quality were found to be more non-compliant (Howes & Olenick, 1986; Peterson & Peterson, 1986) and more aggressive (Howes, 1990) than children in centres categorized as high quality.

CHAPTER IV

DISCRETE INDICATORS OF QUALITY

The inter-relationship among discrete indicators

Researchers did not begin trying to determine what components in child care programs are responsible for positive or negative outcomes until the late 1970s (Belsky, 1984; Clarke-Stewart, 1987b). Many of the studies of this type conducted in the early and mid 1980s were reported as if relationships were solely linear, for example, the relationship between the amount of verbal interaction between children and caregivers and the children's scores on standard tests of language development. An exception is a 1987 article by Kontos & Fiene in which they discuss the impact of clusters of centre characteristics. In reading through the research it is evident that:

- individual indicators of quality can be grouped into categories, for example, caregiver formal education, caregiver child care specific training, and caregiver experience are all caregiver characteristics; and
- there is a relationship between categories, for example, caregiver characteristics have been found to predict the level and quality of caregiver and child interaction.

The concept of an inter-relationship among discrete indicators does not appear to have been clearly articulated in the child care literature until the publication of the Executive Summary of the United States' National Child Care Staffing Study (Whitebook et al., 1989). The inter-relationship concept is critical since it implies that quality cannot be attained simply by tinkering with one indicator or even a category of indicators.

For ease of reading, discrete indicators are discussed individually in the following five chapters. It is essential that the reader keep in mind that in spite of this format, the indicators operate in an interactive fashion. The diagram on the following page, which is a modification of that presented by Whitebook et al. (1990), illustrates the categories, and their indicators, to be discussed in this paper. It also illustrates the way in which categories influence each other. It shows, for example, that both caregiver characteristics and the child development environment predict the interaction between child and caregiver. This, in turn, predicts the child's physical, emotional, social, or cognitive well-being and/or development.

The curvilinear relationship between some indicators and quality

As researchers have focused more specifically on trying to determine which program characteristics facilitate child well-being and development, it has become apparent that more of a good thing does not necessarily translate into a program which is better for children. Research has found that caregivers with training in early childhood education at the post secondary school level are more likely to engage in positive interactions with children and to stimulate their development than are caregivers without such training (Arnett, 1987; Berk, 1985; Fosburg, 1981; Howes, 1983; Stuart & Pepper, 1988; Whitebook et al., 1990). However, one study found that caregivers with four or more years of such training tend to emphasize school-like activities to the detriment of the child's social development while caregivers with less training are associated with children who show greater levels of social competence (Clarke-Stewart & Gruber, 1884). Similarly, Prescott et al. (1967) found that 70-90 square feet of outdoor space per child and 150 square feet or more were both associated with less caregiver sensitivity and higher rates of child uninvolvement in activities than occurred in situations were the outdoor space was between 90-150 square feet per child. Shapiro (1975) found a similar curvilinear relationship between indoor density and child uninvolvement. The awareness that more is not necessarily better has only been articulated recently. Further study is required to identify the point of diminishing returns for each indicator.

Attributed causation

The following chapters summarize research studies which show an association between discrete indicators and child well-being (quality). In some cases the causation appears to be fairly direct, for example, fewer children per caregiver is associated with centres which have higher scores on the Early Childhood Environment Rating Scale and with caregivers who actively interact with the children. This finding is not unexpected. Caregivers who are responsible for a large number of children are more likely to feel stressed and to be preoccupied with basic routines than caregivers who are responsible for fewer children. In the case of other associations found by research studies, for example, the association between caregiver salary and centre score on the Early Childhood Environment Rating Scale, it is not evident that quality is caused by the indicator. In these situations it is likely that both the indicator and quality are the result of a third variable. In the example of an association between caregiver salary and program quality, the third variable might be the organization's concern for the well-being of everyone in its environment, children and caregivers.

Summary

Indicators of quality in child care do not operate in isolation. Instead, there is an inter-relationship whereby indicators in one category, e.g. adult environment, influence those in another, e.g. caregiver-child interaction. There also may be a curvilinear relationship between quality and some indicators. For example, under 70 square feet and over 150 square feet of outdoor space have both been associated with child uninvolvement in activities and less caregiver sensitivity.* This seems to imply that the optimal amount of outdoor space per child is somewhere between 70 and 150 square feet and that more is not necessarily better.

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* A glossary of terms is provided at the end of the text.

CHAPTER V

THE INTERACTION BETWEEN CAREGIVER AND CHILD

Background

In a book aimed at parents seeking information to assist them to select a child care setting, Clarke-Stewart (1982) states:

> "The caregiver is the most important aspect of day care. The caregiver-child ratio is not as important as the kind of behaviour the caregiver exhibits. Behaviour that indicates high quality includes active involvement by talking, teaching, and playing; providing interesting materials; responding to the child's interest, advances, and questions; positive encouragement and suggestions; no demands, threats, or punishment."
>
> (page 129)

The importance of the interaction between caregiver and child is demonstrated by a longitudinal study conducted by Howes (1990). She found that children who had experienced more caregiver involvement, regardless of the structural components of the child care centre, such as ratio and caregiver training, were rated in kindergarten as having better social skills with peers and better task orientation, and as less distractible and less hostile than children who had experienced less caregiver involvement. What is important about this study is that the interaction between caregiver and child was more predictive of outcome than any other indicators or the centre's ranking on a composite measure of quality.

As will be noted in the following chapters, the behaviours shown by the caregiver when interacting with the child are often used in reports to infer the child's experience. For example, an assumption may be made that if the caregiver is positive and responsive in her interactions the children's experience is positive.

Specific research findings

Caregiver behaviours have been found to be predicted by the caregiver's type and amount of training (see the following chapter) and by regulatable indicators in the child care program, for example, the caregiver-to-child ratio (Howes & Stewart, 1987; Ruopp et al., 1979). Caregiver

behaviour, in turn, predicts children's behaviour and development, as discussed below.

a) responsiveness/non-responsiveness

Caregivers who are responsive react appropriately and promptly to children's verbal or non-verbal bids for attention, answer their questions, initiate activities which are geared to the child's developmental level, and are sensitive to the child's current mood. Research has found statistically significant relationships between responsive caregivers and children's cognitive and language development (Carew, 1980; Rubenstein & Howes, 1983; Whitebook et al., 1990) and social competence (Holloway & Reichhart-Erikson, 1988; Rubenstein & Howes, 1983; Whitebook et al., 1990). Children with non-responsive caregivers have been found to show higher rates of aimless wandering* than children whose caregivers are responsive (Rubenstein & Howes, 1979; Whitebook et al., 1990), poorer language development (Melhuish et al., in press, b), and poorer social skills (Rubenstein & Howes, 1979).

b) positive caregiver interaction

Caregivers with high levels of positive interaction show active interest in the child's activities and provide ample encouragement. When children whose caregivers show high levels of positive caregiver interaction are compared with children experiencing lower levels, they have been found to show greater emotional security (Anderson et al., 1981), higher levels of language development (Carew, 1980; Golden et al., 1978; Howes, 1990; Ruopp et al., 1979; Whitebook et al., 1990), more advanced cognitive development (Carew, 1980), better task orientation (Howes, 1990), and lower levels of aimless wandering (Whitebook et al., 1990).

c) caregiver informative verbal exchange with children

Caregiver informative verbal exchange refers to giving reasons or explanations, reading to children, etc. The amount of caregiver informative verbal information experienced by the child has been found to be significantly associated with the level of the child's language skills (Carew, 1980;

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* Aimless wandering has been found to be associated with poor language development and poor general knowledge (Ruopp et al., 1979).

McCartney, 1984; Melhuish et al., in press, b; Phillips et al., 1987; Rubenstein & Howes, 1983), social competence (Clarke-Stewart, 1981; Clarke-Stewart & Gruber, 1984; Phillips et al., 1987), and cognitive development (Carew, 1980).

d) caregiver controlling or restrictive behaviour

Research has found that caregiver restrictiveness or controlling is associated with children who have poor language development (Berk, 1985; Carew, 1980; Clarke-Stewart & Gruber, 1984; McCartney, 1984), poor performance on cognitive tests (Clarke-Stewart, 1989),
and later problem behaviours (Rubenstein & Howes, 1983).

e) caregiver harshness

Harsh caregivers are critical with the children, scold or threaten them, and/or use punishment as a means of discipline. Children with harsh caregivers have been found to show higher levels of aimless wandering than do children whose caregivers are not harsh and to have lower levels of attachment to the caregiver (Whitebook et al., 1990). Attachment to the caregiver has been associated with willingness or lack of willingness to explore a strange environment (Carew, 1980) and is thought to have an impact on the child's cognitive development.

f) caregiver detachment

Detachment refers to an observed lack of involvement with the child and is thought to indicate lack of interest or negative feelings such as may occur in caregiver burn-out. Caregiver detachment has been associated with children who show high rates of aimless wandering, poor language development, and developmentally less complex levels of play with peers (Ruopp et al., 1979; Whitebook at al., 1990). Conversely, a high level of involvement with the child has been associated with child attachment to the caregiver and willingness to explore a strange environment (Anderson et al., 1981).

Clustering

The American National Child Care Staffing Study found that caregiver behaviours tend to cluster. For example, caregivers who were rated as high in sensitivity were also rated as low in harshness and detachment.

Summary

The interaction between caregiver and child has been characterized as the most important aspect of child care (Clarke-Stewart, 1982). Research has found that positive caregiver behaviour, such as responsiveness, is associated with children whose language and cognitive development and social competence is at higher levels than found in children whose caregivers did not exhibit such behaviour. Conversely, caregiver behaviours such as harshness and detachment have been found to be associated with aimless wandering, poor language development, and less developmentally complex levels of play.

CHAPTER VI

CAREGIVER CHARACTERISTICS

Background

The three indicators of quality in the caregiver characteristics category are: years of formal education; the presence or absence of specific training in child development or early childhood education; and years of experience as a child care provider. There are five aspects to consider in regard to formal education and specific child care-related training:

- o does formal education and/or specific child care-related training make a difference to the child's daily experience or development;
- o if formal education and/or specific child care-related training does makes a difference, which is the better predictor of children's well-being and/or development;
- o does child age or special need make a difference in the type of caregiver preparation which is desirable;
- o what are the special needs of native Indian programs; and
- o is there a difference in the preparation required to be an effective director as opposed to what is required to be an effective frontline caregiver.

In regard to experience, the issue appears to be whether or not the number of years of working in child care makes a difference.

The impact of formal education or specific child care-related training

The effect of caregiver formal education or child care-related training can be determined either by observing its direct impact on children's well-being and/or development or by examining its association with caregiver behaviours which have been shown to be related to children's well-being and development (see the previous chapter of this paper). There is a considerable body of research which indicates that caregivers with some college education and/or post secondary school training in child development or early childhood education exhibit higher rates of positive caregiver behaviours, such as responsiveness, than do caregivers with only a high school diploma or less (Arnett, 1987; Berk, 1985; Fosburg, 1981; Howes, 1983; Jones & Meisels, 1987; Ruopp et al., 1979; Stuart & Pepper, 1988; Whitebook et al.,

1990). They are also more likely to provide developmentally appropriate activities for the children they are looking after (Goelman & Pence, 1988; Howes, 1983; Ruopp et al., 1979; Whitebook et al., 1990). Furthermore, children in their care receive higher scores on measures of social functioning and other aspects of child development than do children whose caregivers do not have post secondary school education or specific child care-related training (Clarke-Stewart & Gruber, 1984; Goelman & Pence, 1989; Howes & Olenick, 1986; Ruopp et al., 1979; Vandell & Powers, 1983).

It should be noted that the studies conducted by Fosburg (1981), Goelman & Pence (1989), Jones & Meisels (1987), and Stuart & Pepper (1988) relate to family-based child care. This suggests that post secondary school education or child care-related training matters in both centre-based and family-based settings. Pence & Goelman (undated) in British Columbia found that whether or not a family-based child care provider had specific training in child care* predicted whether or not the home received a high score on the Day Care Home Environment Rating Scale (DCHERS). Several key informants expressed the opinion that training may be more crucial in family- than in centre-based child care because of the isolation of the caregiver. As noted by Carollee Howes (personal communication), research shows that adults alone with children become more restrictive and punitive. Therefore, there is a greater potential for child abuse in family-based child care than in a centre where several adults are present at any one time.

Formal education versus specific child care-related training

In a 1987 review article, Phillips and Howes state that "there is ample evidence that specialized training is associated with good quality care" (page 7). They cite studies by Arnett (1987), Fosburg, (1981), Howes (1983), and Ruopp et al. (1979) to support this opinion. They then point out that studies by Berk (1985) and Clarke-Stewart & Gruber (1984) suggest that years of formal education per se may be what is important for positive caregiver behaviour and child well-being. Therefore, Phillips & Howes conclude that it is not clear "whether the sheer amount of education or the substance of the education is the more potent predictor of good quality care" (page 7). However, a detailed examination of both the Berk and the Clarke-Stewart & Gruber articles suggests that it may not be appropriate to interpret their findings as supporting the value of college education per se, that is to say a bachelor's degree in any discipline, over specific child care-related training.

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* The training involved a specific course for family-based child care providers offered by Vancouver Community College at its Langara Campus.

Berk (1985), in a study conducted in the United States, compared caregivers with a high school education, but no formal child care-related training, with 29 caregivers who had two years or more college education. Caregivers with college education were found to be significantly more responsive to the children, significantly less restrictive with them, and to spend more time in activities that would promote verbal skills. However, 24 of Berk's 29 college educated caregivers had at least some college level child care courses. When Berk compared college educated caregivers with and without a child-related major she found that the former tended (though not at a statistically significant level) to be less restrictive with children and more encouraging of their independence and verbal expression. Therefore, the superior performance of college educated caregivers probably reflected the combination of post secondary school education and specialized child care-related training, not simply college education.

In the Clarke-Stewart & Gruber (1984) study, also conducted in the United States, children whose caregivers had some college-level child development courses did better than children whose caregivers did not on cognitive and language tests but were less socially competent. Children whose caregivers had a similar level of formal education but no specific child care-related training were not as advanced in cognitive development but showed greater social competence with peers and more compliance with parents. As suggested by the authors, in this sample of caregivers formal academic training in child development may have emphasized academic preparation of the children at the expense of their social skills. However, children being cared for by both groups of caregivers had what could be judged as positive outcomes. Whether the findings of this study are taken to support the value of formal education per se over child care-related training depends on the value placed on the development of verbal and cognitive skills versus social skills.

Two large multi-site studies have been conducted in the United States both of which examined the issue of formal education versus specific care-related training. The American National Day Care Study (Ruopp et al., 1979) involved 1,800 children in 120 classrooms from 64 different centres in Atlanta, Detroit, and Seattle. It found that child care-related training was associated with higher levels of positive caregiver interaction with children; higher levels of language stimulation by caregivers; children who showed more cooperative behaviour and greater task persistence; and gains in children's general knowledge. Neither years of formal education nor degrees or certificates unrelated to child care were correlated to caregiver behaviour, nor to the quality of the caregiver and child interaction, nor to measures of child development.

The National Child Care Staffing Study (Whitebook et al., 1990) involved 643 classrooms in 227 child care centres in five cities, Atlanta, Boston, Detroit, Phoenix, and Seattle. When the Executive Summary was released in 1989, it stated that "in general, the amount of formal education obtained by the teacher was the strongest predictor of appropriate teacher behaviour, with specialized training emerging as an additional predictor in infant classrooms" (page 9). The Study found that the individual's overall amount of formal education predicted:

- teachers' and assistants' appropriate caregiving, e.g. physical care, discipline, and activities with the child, in infant, toddler, and preschool classrooms. However, with infants, training in early childhood education was associated with appropriate care at a statistically higher level ($p < .01$) than was formal education ($p < .05$);

- teachers' sensitivity, e.g. warm, responsive, in all three age groups and assistants' sensitivity with toddlers and preschoolers. Neither assistants' training in early childhood education or formal education predicted sensitivity with infants;

- teachers' harshness, e.g. critical, threatens children, with infants and with preschoolers, and assistants' harshness with preschoolers. Neither formal education nor training in early childhood education predicted teachers' harshness with toddlers or assistants' harshness with either infants or toddlers; and

- general level of detachment, that is, an apparently low level of interest in the children, in all age groups. However, there also was a statistically significant relationship between assistants' training in early childhood education and level of detachment as it related to toddlers.

When the full report was released it became apparent that training categorized as early childhood education included one or two family studies in high school; a child care course in a vocational school (which does not require high school education for admission); a two year college course; or four years or more of college. Therefore, the content and breadth of early childhood education training in this sample of caregivers varied considerably. Fifty-three percent of the teachers (but not the assistants*) with a bachelor's degree or higher education had either taken post secondary school courses in or graduated from an early childhood education course and 66% of those with a two-year college degree or certificate had taken some college level child care-related courses. Therefore, teachers with higher levels of formal education also tended to have had specialized child care training at the college level.

A more in-depth analysis of the findings showed that:

- o teachers with at least a bachelor's degree in early childhood education engaged in caregiving that was significantly more appropriate with children in all three age groups than did those whose early childhood education training was at the vocational school level or less (.05 level of significance). They were also rated as more sensitive ($p < .01$) and less detached ($p < .01$);

- o teachers with a bachelor's degree with or without early childhood education training, or teachers with college level training in early childhood education but no bachelor's degree, provided more appropriate caregiving than did caregivers with no college education whether or not they also had training in early education. Therefore, "either a bachelor's degree or specialized training at the college level was associated with higher quality caretaking" (page 45); and

- o preschool teachers were more appropriate with children when they either had a bachelor's degree, with or without training in early childhood education, or had no bachelor's degree but did have early childhood education at the college level, than were teachers with no bachelor's degree and no early childhood education training or child care-related training at the vocational school or secondary school level.

Three conclusions can be drawn on the basis of this Study's findings, namely:

- o specialized training at the post-secondary school level is more likely to provide a good preparation for child care provision than is child care-related training at the secondary school or vocational school level;

- o caregivers working with infants and toddlers appear to require specific child care-related training; and
- o either a bachelor's degree or specialized child care-related training may be the appropriate preparation for caregivers who are going to work with preschoolers.

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* For some unexplained reason the report does not provide similar data for assistants even though it indicates that some of them had college education. Presumably, in some cases, this would have included child care-related courses.

Independent telephone interviews were conducted with each of the three principal investigators in this study (Marcy Whitebook, Carollee Howes, and Deborah Phillips) to discuss the findings related to child care-specific training versus a bachelor's level degree in any discipline. There was remarkable agreement among all three in regard to:

- the need for preparation at the post-secondary school level. Good child care is perceived as requiring the intelligence and flexibility to interpret situations and respond appropriately. Rote learning and application of concepts is not adequate;

- the need for early childhood education training to be "coherent", that is based on a careful thinking through of what is required for quality child care and involving courses which relate to each other in a logical fashion. Taking an assortment of early childhood education courses which are not part of an overall program is not adequate; and

- the fact that adequate preparation is much more essential for caregivers working with infants than it is for those working with preschoolers. Infants were identified as being in a stage of rapid development and, unlike the preschooler, lacking the verbal or social skills to make their needs known. As found by Howes (1990), the caregiver has a much greater impact on the future socialization skills of children who enter child care as infants than on the skills of those who enroll in child care at a later age.

Initially all the three above informants stressed the need for a bachelor's degree. However, in the course of the discussions it became apparent that none of the caregivers in the Study's sample with training below the bachelor's level had preparation that would be comparable in content or coherence to the Ontario two-year community college early childhood education course. Carollee Howes suggested that in their sample, the closest to the Ontario program was a B.A. in early childhood education. This lack of training program in the United States equivalent to the Ontario two-year course is important to keep in mind when interpreting the findings of American studies.

The National Day Care Study and the National Child Care Staffing Study were both conducted in child care centres. In an Ontario study conducted in family-based child care settings, Stuart & Pepper (1988) found that caregivers who had attended or completed a community college, university, or equivalent post secondary school program received significantly higher scores on the Day Care Home Environment Rating Scale (Harms & Clifford, 1984) than did either secondary school graduates or those who had not completed secondary school. The latter two groups did not

differ significantly from each other. Providers whose post secondary education was directly related to early childhood or elementary education received significantly higher DCHERS scores that did those who had attended courses or programs, such as liberal arts or nursing, that were not directly related to child care.

In conclusion, it appears that the weight of evidence supports the desirability of post-secondary school specialized child care-related training rather than post-secondary school formal education in just any discipline. As stated by Howes in 1987, caregivers trained in child development are more likely to plan care based on appropriate developmental expectations, for example, to know that exploration through activities such as finger painting is more important for a toddler than is drill in letters and numbers. They are also better able than caregivers without such training to distinguish maladaptive behaviours from developmentally appropriate behaviours.

The impact of age or special need

a) age

The National Child Care Staffing Study (Whitebook et al., 1990) implies that a different type of preparation might be desirable for caregivers working with preschoolers versus those working with infants or toddlers. Such a requirement would be consistent with practice in Sweden, where centre-based caregivers working with children up to the age of three ("child nurses") have a two-year post secondary school course while caregivers working with preschoolers ("preschool teachers") have a two-and-a-half year course at teacher's college (Andersson, 1989). Similarly, in France, directors of infant-toddler programs are paediatric nurses with additional training in child development and administration and frontline caregivers are "infant nurses". Directors and professional workers (as opposed to aides) in preschool programs have post secondary school education equivalent to a master's degree in early childhood and elementary education (Richardson & Marx, 1989).

Key informants across Canada and the United States were remarkably consistent in stating that:

- caregivers looking after infants and toddlers need specific training related to this age group and that the training requirements are different from what is required to provide quality care for preschoolers; and
- school-aged child care should not be a repetition of school, with its emphasis on cognitive tasks and formal structure, therefore, training as an elementary school teacher is not appropriate preparation. However, the current early

childhood education course is not appropriate either since the school-aged child care provider should be facilitating skill building that is appropriate for school-aged children. Instead, what is required is training which combines courses focusing on child development in the latency age (and recognizes differences in developmental tasks and issues between 6-9 year olds and 10-12 year olds) and recreation (hobbies, cultural stimulation, and sports).

The importance of specialized training for working with school-aged children is also supported by the Manitoba Child Care Association (1989), which recommends a 240 hour specialized certificate in school-age child care, and by Alexander (1986), Seligson & Fink (1989), and The Ten Plus Committee (1989).

Key informants in Ontario expressed concern that the current two-year community college early childhood education program is too short a period in which to provide adequate training related to all age groups, that is, infants, toddlers, preschoolers, and school-aged children. This view was also presented by Carolyn Warberg, chairperson of the Ontario Colleges of Applied Arts and Technology Coordinators of Early Childhood Education, in her presentation to the Select Committee on Education (January 22, 1990). Key informants suggested that a viable alternative might be a program which would involve a basic two-year core course and additional one-year specialization modules in areas such as infant/toddler care or centre administration.

b) special needs

Key informants suggested that training for caregivers working with special needs children, for example, children with a developmental or physical handicap, must:

- include a solid grounding in normal child development and developmentally appropriate activities;
- be needs specific, that is, include training related to the type of child to be served, for example, how to correctly lift a paraplegic child. The requirement for needs specific training is also emphasized by Allen (1980); Clark (1982); and Halliwell & Spain (1977); and
- assist the caregiver to develop the skills necessary to make effective use of consultants from other disciplines such as speech and language therapy.

Native programs

> First Nations look to child care centres for the revival of their culture and values. Many of them want to educate children, from infancy onward, in their languages, customs and values so that they can reinforce their sense of identity, give them a sense of pride and belonging, and stem the appalling loss of self-esteem that their people have suffered through a century of cultural battering."
>
> (Assembly of First Nations, 1989, page 24)

To meet the needs of young children and their families, a child care program must be culturally relevant and appropriate. This involves understanding and respecting the culture of the participants and their child-rearing practices (Assembly of First Nations, 1989; Mayfield, 1990). The Assembly of First Nations (1989) notes that existing Early Childhood Education programs do not recognize that involvement of elders and respect for language and traditional values are essential components in achieving quality care for Native children. It suggests both that more culturally sensitive training programs be developed and that Indian child care programs be staffed by natives. This emphasis on the need for native staff able to transmit native culture and values has also been expressed by the Native Council of Canada (1990). Toby Turner, of the Ontario Metis and Aboriginal Association, and Marlene Pierre of the Ontario Native Women's Association stated that native parenting practices and family traditions must be carried on in the child care centre to ensure continuity for the children (personal communication).

As observed by the Assembly of First Nations (1989), Canning (1986), and Mayfield (1984), all writing about the Canadian context, native workers for child care programs require a different training from that commonly offered. Mayfield suggests on the basis of personal experience that a combination of utilization of traditional child-rearing practices and modern child development knowledge is an effective approach with native children and supports the native family and community.

Preparation requirements for supervisors and directors

Jorde-Bloom (1989) conducted a study in Illinois in which she examined the training and education needs of child care centre directors through a combination of:

- a questionnaire sent to 990 directors of licensed centres;

- site visits to 103 programs, which included administration of part of the scale used to evaluate centres applying to the United States' National Academy of Early Childhood Education for accreditation; and

- questionnaires to 89 "experts", these included members of the Board of the National Academy of Early Childhood Education, academics, and government officials.

Seventy-six percent of the directors and 87% of the experts stated that graduation from a post-secondary school program in early childhood education plus courses in the administration of a child care centre, for example, staff supervision and financial management, should be a pre-requisite to being made a director. They also agreed that prior experience as a frontline caregiver was essential. In the Jorde-Bloom study the director's formal education level, that is, university degree or no university degree, was the strongest predictor of quality as measured by the National Academy of Early Childhood Education scale. However, there was also a statistically significant (though not as strong) relationship between quality and specialized training in early childhood education, and between quality and training in the administration of a child care centre. Since many of the directors' university degrees were in early childhood education, this study cannot be used to support any suggestion that a degree is more desirable for a director than is post-secondary school child care-related training.

Bredekamp (1989), in summarizing characteristics of programs which have received accreditation from the United States National Academy of Early Childhood Education, notes that the most salient predictor of overall quality has been found to be a director who has a strong educational background in early childhood education and at least one degree. Again, it is probable that the degree that many of the directors had was in early childhood education.

Key informants noted that the role of the director (and of the supervisor in a large program) is pivotal and agreed that it requires both:

- solid grounding in early childhood education so that the individual can provide leadership in programming which is based on a sound understanding of child development; and

- additional training in administration and personnel management.

The findings of Jorde-Bloom, the observation of Bredekamp, and the opinion expressed by key informants, all support the notion that to be effective a child care centre director requires both specific child care-related training and additional training in administration.

Key informant opinion in regard to caregiver training is presented at the end of the following chapter.

Experience

The findings regarding the contribution of frontline caregiver experience in child care are mixed. No impact on caregiver behaviour is reported by Fosburg (1981), Stuart & Pepper (1988), and Whitebook et al. (1990). Clarke-Stewart & Gruber (1984) found what they considered to be a mixed impact. Caregivers with more experience were associated with children who performed better on cognitive tests but were less socially competent than were children whose caregivers had less experience. Howes (1983) reports that in both centre- and family-based child care settings more experienced caregivers were more responsive with the children than those with less experience. Kontos & Fiene (1987) also report that more experienced caregivers exhibit more positive caregiving behaviours. However, Ruopp et al. (1979) found that caregivers with more experience engaged in less social interaction and less cognitive stimulation with infants and toddlers than did caregivers with less experience. Furthermore, the presence of the experienced caregivers was associated with higher levels of child apathy and more situations of potential danger for the child.

These studies do not link the actual years of experience with the outcome observed. There may be a curvilinear relationship whereby some experience has a positive outcome but beyond a certain point it may have a negative impact, perhaps because caregivers become vulnerable to burnout.

With directors, more experience in child care generally seems to be better than less experience. Centre quality, as measured on a composite index such as the Early Childhood Environment Rating Scale, has been found to be directly associated with the length of the director's experience by Jorde-Bloom (1989) in the United States and Phillips et al. (1987a) in Bermuda. Phillips et al. also found a higher rate of frontline caregiver turn-over in centres were the directors had less experience. Kontos & Fiene (1987), also in the United States, found more positive frontline caregiver behaviours in centres where the director had longer experience than was the case in centres where the director had little experience.

Summary

There appears to be agreement that quality caregiving in a group situation is associated with post secondary school education. However, there has been some debate in the professional literature as to whether the sheer amount of education or the substance of the education is the better predictor of quality. A review of the research literature indicates that content, for example, training in early childhood education, is the crucial factor. It is also important to prepare workers for the different developmental tasks and needs of children in different age groups, the unique needs of children with handicaps, and the additional knowledge and skill required to be a supervisor or program director. Cultural relevance is also important for quality. The research is less clear on the impact of experience. Some studies have found more positive caregiver behaviour among experienced caregivers while other studies have found evidence of caregiver detachment among people who have been in the field for several years.

CHAPTER VII

THE CHILD ENVIRONMENT

Background

The indicators of quality in the child environment category are: health and safety provisions; the physical setting; the caregiver-to-child ratio (number of children per caregiver); the group (class) size; the program size; density (square feet per child); the extent to which developmentally and culturally appropriate programming is available; and staffing patterns. Each of these indicators is discussed separately in this chapter. There is then a section which discusses how some of these indicators have been found to cluster, followed by a summary of key informants' opinions in regard to indicators of quality in the child environment.

Health and safety

At a minimum, quality requires that the child be safe and protected from health hazards. Perhaps because this is so obvious, little research appears to have been conducted in this area in spite of the agreement that children in child care are vulnerable to various types of infections (Canadian Paediatric Society, 1988; Esbensen, 1985; Hadler et al., 1982; Haskins & Kotch, 1986; Henderson & Giebink, 1986; Snow, 1983).

Klein, from the Department of Paediatrics at Boston University School of Medicine, notes that:

> "hand washing is the single most important technique for prevention of gastrointestinal and many respiratory infections. Compulsory hand washing after handling infants, blowing noses, changing diapers, and using toilet facilities should be expected of every caregiver."
>
> (1986, page 12)

Black et al. (1981), in an experiment conducted in 4 ordinary community child care centres, were able to demonstrate a 50% decrease in diarrhea when child and caregiver hand washing was rigorously enforced. The Canadian Paediatric Society (1988) recommends separate hand washing facilities in kitchens and diaper changing/toilet areas, that all surfaces should be washable, and

that there be a routine daily disinfection of toys and all surfaces. Other recommendations from the Society include:

- education of staff, parents, and children about the transmission, recognition, management, and prevention of infections;
- requiring candidates for employment to provide a physician's certificate indicating the absence of physical or mental conditions which may create a hazard to children or other staff members;
- mandatory annual physical examinations for all staff members;
- daily screening of children;
- mandatory age-appropriate immunization of all children;
- isolation or exclusion of ill children when appropriate; and
- assignment of a consistent person (primary caregiver) to each child who is not yet toilet trained to reduce the number of routes of transmission of infections.

Both the Canadian Paediatric Society and the American Academy of Paediatrics, in collaboration with the American Public Health Association, are in the process of developing health and safety standards for child care settings.

The physical setting

The Canadian Paediatric Society (1988) notes that the physical arrangement of a child care setting should reduce hazards, for example, by the use of barriers to prevent access to unsafe places, provide adequate lighting and ventilation, and avoid crowding and over-stimulation. It recommends that the play area and entrances be located away from streets, traffic, and parking lots. When physically handicapped children are present, there should be ramps, extra wide doors, and other physical amendments to permit independent locomotion by the child.

The Association of Early Childhood Education, Ontario (1988) and Lero & Kyle (1985) point out the value of a mixture of small and large rooms, so that there can be both small group and large group activities, and space where children can have privacy within the large group setting. Smith & Jaworski (1984) stress the need to balance the provision of physical challenge, such as climbing

bars, with safety, for example, by ensuring a soft surface under the bars.

Clarke-Stewart & Gruber (1984), in their study of two- and three-year olds in family- and centre-based child care in Chicago, found that children who did well on their tests of cognitive skills and social competence came from child care environments which were safe, orderly, rich in toys and educational materials, and appropriately organized into activity areas. In another American study, Howes (1983) found that family-based child care providers who were working in space designed to be safe and appropriate for children were significantly less likely to restrict toddler activity, less likely to be negative, and more likely to be responsive and to engage in activities which would stimulate the child's social development.

The caregiver-to-child ratio

The number of children per caregiver is commonly referred to as the caregiver-to-child ratio. Research shows that this has a definite impact on caregiver behaviour, caregiver attitudes, centre quality, and child functioning.

A favourable caregiver-to-child ratio, that is, a small number of children per caregiver, is associated with appropriate caregiving and the provision of appropriate activities (Whitebook et al., 1990); caregivers who are sensitive and responsive to the child (Howes, 1983; Howes & Rubenstein, 1985; Whitebook, 1990); who engage in more social stimulation (Biemiller et al., 1976; Howes, 1983); and provide more verbal and cognitive stimulation (Biemiller et al., 1976; Howes, 1983) than do caregivers in situations of poor ratio.

A large number of children per caregiver is associated with more incidents of infants exposed to potential danger (Ruopp et al., 1979); caregivers who are harsh (Whitebook et al., 1990); or restrictive (Howes, 1983); or detached (Whitebook et al., 1990). In situations of poor ratio in comparison to favourable ratio, a higher percentage of caregiver time is spent in controlling the children (Biemiller et al., 1976; Ruopp et al., 1979) and in routines such as toiletting (Biemiller et al., 1976) and a smaller percentage is spent in social stimulation or teaching (Field, 1980; Melhuish et al., in press; Ruopp et al., 1977). Not surprisingly, each child experiences fewer individual contacts with a caregiver (Shapiro, 1977). Whitebook et al. (1990) found that ratio was the child environment measure which best predicted the type and quality of caregiver and child interaction.

Two studies reflect the impact of ratio on caregiver attitude. Mashlach & Pines (1977) found that

more children per caregiver was associated with less job satisfaction and higher caregiver restrictiveness. As found by Whitebook et al. (1982), low job satisfaction is linked with high caregiver turnover. This results in a loss of stability for the children. Smith & Connolly (1986) found that when the child-to-caregiver ratio was increased, caregivers reported their work to be less satisfying and "appreciably more exhausting".

Ratio also has an impact on centre quality. In a study of ten centres with ratios of 1:6 to 1:15 which were serving three-, four-and five-year olds, Kontos & Fiene (1987) found that centres with the more favourable ratios (fewer children per caregiver) obtained higher scores on the Early Childhood Environment Rating Scale.

As might be expected, positive ratios are associated with positive child behaviour and unfavourable ratios with behaviour which is undesirable. When there are few children per adult, children are rated as more considerate of others (Phillips et al., 1987a); and are found to be more compliant and more able to regulate their own behaviour (Howes & Olenick, 1986); and to engage less often in solitary or unoccupied behaviour (Holloway & Reichhart-Erikson, 1988; Vandell & Powers, 1983) than children in programs with many children per adult. Situations where there is a large number of children per adult have been found to be associated with children who have a short attention span and poor verbal skills (Schwarz, 1983) and infants who are apathetic and show overt distress such as significant amounts of crying (Ruopp et al., 1979). The only exception to the above trend is a study by Clarke-Stewart & Gruber (1984) which found that children in centres with a larger number of children per caregiver were more cooperative with adults and peers than children in centres with smaller caregiver-to-child ratios. However, the range of ratios in this study was 1:4 to 1:6 for three-year olds. These ratios may not be sufficiently different at this age to have an impact on child behaviour.

Two studies have manipulated ratios using the same caregivers, the same children, and the same physical setting. Therefore, it is possible with these studies to feel confident that the findings reflect the impact of ratio and not some other variable. Smith & Connolly (1986), in England, manipulated the ratio between 1:4 to 1:14 by doubling up two groups of three- and four-year olds attending two half-day programs staffed by the same caregivers and operated in the same setting. When the number of children per caregiver was higher, caregivers spent a larger proportion of their time in routines and controlling the children and less time on social interaction with the children. They also were more restrictive and more often prohibited children from doing things.

The children experienced less individual interaction with the caregivers and more instances where they addressed a caregiver but did not receive a reply.

In New Zealand, Smith et al. (1989) took advantage of the fact that four preschool programs serving three- and four-year olds obtained funds to hire a third caregiver. The researchers took baseline data before the additional caregiver arrived, when the ratio was 1:20, and two observations after her arrival, when the ratio was 1:13.3.* In this study, two of the caregivers in each program and all the children were the same for the pre- and post-change observations, as was the physical setting. The introduction of the third caregiver was associated with significant reductions in children's negative behaviour towards peers. Though not statistically significant, Smith et al. also found that the children played more positively with peers and had more individual conversations with caregivers when the ratio was more favourable. Under the same condition, the caregivers spent more time talking with parents.

The above studies suggest that ratio does make a difference to the child's experience and to child behaviour and development. Not all studies report both the specific ratios and the age of the children in the program. Of those that do, the favourable ratio for infants ranged from 1:1.5 to 1:2, for toddlers ranged from 1:1 to 1:3, and for preschoolers ranged from 1:3.5 to 1.13.3.

In a 1990 draft statement on high quality child care, the Canadian Child Day Care Foundation has indicated the following as acceptable ratios: 1:3 to 1:4 for infants (0-18 months); 1:3 to 1:5 for toddlers (18-35 months); 1:4 to 1:6 for two- and three-year olds; 1:5 to 1:8 for three-year olds; 1:8 to 1:10 for four-year olds; 1:8 to 1:12 for five-year olds; and 1:10 to 1:12 for school-aged children. These ratios assume that the adult has full-time responsibility for the child and does not have any administrative or other duties. The range reflects possible variations in group size.

In the United States, three documents address centre ratios with recommendations based on expert opinion. These documents are: the 1980 proposed Department of Health, Education and Welfare Federal Interagency Day Care Requirements (FIDCR) which actually were never passed by Congress (Federal Register, 1980); the National Association for the Education of Young Children Criteria for High Quality Early Childhood Programs (1984); and the Child Welfare League of

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* The ratio was actually more favourable at times under both conditions due to the presence of students on placement.

America's Standards for Day Care Services (1984). The adult-to-child ratios specified in these documents are: 1:3 for infants under one year; from 1:3 to 1:5 for children between the age of one and three; from 1:7 to 1:9 for three-, four- and five-year olds; and from 1:10 to 1:16 for school-aged children under age ten. FIDCR recommends 1:18 for ten- to twelve-year olds. In more recent documents, a ratio of 1:10 or 1:12 for school-aged children has been recommended by the Toronto-based Ten Plus Committee (1989) and the Manitoba Child Care Association (1989).

Group size

The American National Day Care Study (Ruopp et al., 1979) suggested that for children between the age of three and five, group (class) size was the single most important determinant of children's experience. In groups of 12 or less, caregivers were more actively involved with the children (e.g. questioning, responding, praising, comforting) and spent a lower percentage of their time in straight monitoring or conversation with other adults than did caregivers in groups of 24 or more. Children in the smaller groups were less likely to be involved in aimless wandering, more cooperative, less hostile, and showed greater improvement on tests designed to test reading readiness than did age-mates in larger groups. The benefit of smaller groups was observed even when the caregiver-to-child ratio was constant. Groups of 12-14 children with two caregivers (ratio 1:6 or 7) had better average outcomes than groups of 24-28 children with four caregivers (ratio also 1:6 or 7). Similarly, Ruopp et al. (1979) found that large infant groups were associated with less social interaction and less cognitive and language stimulation by the caregiver than were smaller groups. Infants in larger groups were also more apathetic and cried more often than those in smaller groups.

Findings in more recent studies have been contradictory. In another American study involving children between the age of three and five, Kontos & Fiene (1987) found that centres with larger groups had better scores on the Early Childhood Environment Rating Scale (ECERS) and a checklist looking at characteristics such as caregiver-to-child ratio and environmental safety than did centres with smaller groups. However, centres with smaller groups were associated with caregivers who obtained higher scores on an observation scale rating them on behaviours such as responsiveness. Group size was found to have no significant impact on child functioning. In the Kontos & Fiene study the group size ranged from 15 to 39 with the average being 22.8. In England, when Smith & Connolly (1986) compared three- to five-year olds in groups of
10 versus 30, they found that the children in the smaller groups engaged in more fantasy play, that is, playing out the roles of others in various situations. Wright (1983) suggests that fantasy play is

important for the development of abstract thinking and, therefore, school readiness. In the same study, children in groups of 30 spent more time in aimless looking around and in unoccupied behaviour than did children when the group size was 10. Holloway & Reichhart-Erikson (1988) found that five-year olds in large classes in centre-based care gave responses on a test of reasoning about social issues which were more anti-social than those of children in smaller groups. This study's report provides no information on group size.

In regard to toddlers, Howes (1983) found that in family-based child care homes caregiver responsiveness and positive affect towards children was predicted by group size. Looking at centres, Howes & Rubenstein (1985) found that toddlers in groups of 8 or less experienced more social interaction with the caregivers and were more talkative than toddlers in groups of 9 to 34. Caregivers with larger groups were more restrictive and the toddlers exhibited more crying.

However, Clarke-Stewart & Gruber (1984) present a more complex picture in regard to the impact of group size on the two-and three-year olds that they studied in both family- and centre-based care. In the home settings, having either no other children to play with or more than five was associated with less social competence with an unknown peer. The researchers suggest that this indicates that there may be an optimal number of children required to foster social skills. In the same study, centre groups of 18 or more children were associated with children who did poorly on a test to measure understanding of social situations and poorly on measures of social competence with adults and peers. However, they did better than children in smaller groups on a test of ability to take the perspective of another. Clarke-Stewart & Gruber hypothesize
that having more different adults and children around gave the children in the large groups more opportunity to learn that others have their own viewpoint and it may be different from your viewpoint.

The recent American National Child Care Staffing Study (Whitebook et al., 1990) reports that group size did not predict caregiver behaviour with infants, toddlers, or preschoolers. This study did not explore the impact of group size on children's behaviour.

In summary, five studies indicate that smaller groups are associated with more positive child outcomes than are larger groups (Holloway & Reichhart-Erikson, 1988; Howes, 1983; Howes & Rubenstein, 1985; Ruopp et al., 1979; Smith & Connolly, 1986), one reports both positive and negative outcomes associated with larger rather than smaller groups (Clarke-Stewart & Gruber,

1984), and two report no association between group size and child functioning (Kontos & Fiene, 1987; Whitebook et al., 1990). The Clarke-Stewart & Gruber study probably is more supportive of small is better than otherwise. While large groups in centres were associated with children who did better on a test of ability to take the perspective of another, the researchers note that this knowledge did not translate into actual behaviour.

Where no impact was found the reason may be that the "large" group either was not much larger than that recommended for children of the same age by groups such as the Canadian Child Day Care Federation (1984) or the National Association for the Education of Young Children (1984) or the number of groups that were much larger was a very small proportion of the total sample. In the Whitebook et al. study, 89% of the infant groups had 10 or fewer children, 95% of the toddler groups had 16 or less, and 89% of the preschool groups had 20 or fewer children. These group sizes are comparable to the 6-9 for infants, 6-10 for toddlers, and 10-16 for preschoolers recommended by the Canadian Child Day Care Federation (1990) or the 5-8 for infants, 10-14 for toddlers, and 16-20 for preschoolers recommended by the National Association for the Education of Young Children (1984). The average group size of 22.8 in the Kontos & Fiene study is not that much larger than the size recommended by the National Association for the Education of Young Children for the age of children they studied (3 to 5 year olds).

In conclusion, in spite of a couple of studies with contradictory findings to the general trend, it appears that smaller groups facilitate caregiver behaviour which encourages children's development.

Program size

Research from the United States has consistently found that large centres are more likely to be associated with undesirable caregiver behaviour and less positive outcomes for children than are small centres. In 1967, Prescott et al., in a report summarizing data from 50 California programs, found that centres with over 60 children placed much greater emphasis on routines and group versus individual activities than did smaller centres. In relation to this, it should be noted that Ruopp et al. (1979) found that children in centres with a high emphasis on group activities obtained poorer scores on measures of receptive language than did children whose programs had a larger proportion of individual activities. In the Prescott et al. study caregivers in the larger programs were also found to be twice as restrictive and controlling and were more often rated as non-responsive and detached. In a more recent study, Clarke-Stewart & Gruber (1984) found that two-

and three-year olds in larger centres tended to do less well on measures of social competence than age-mates in smaller programs.

Looking at more global measures of quality, Kontos & Fiene (1987) found that larger centres obtained poorer total scores on the Early Childhood Environment Rating Scale (ECERS) and a checklist that looked at items such as safety, programming, administration, and parent involvement, than did smaller centres. The size of the centres in this study ranged from 20 to 127 with the average size being 60. Jorde-Bloom (1989) noted that the overall "organizational climate" (e.g. staff members' perception of the quality of work life, perceived supervisor support) was significantly poorer in larger programs. There was also a statistically significant relationship between a centre's score on a measure of overall organizational climate and quality as measured by the rating scale used to evaluate centres which apply to the National Association of Early Childhood Education for accreditation.

Organizations such as the Association of Early Childhood Education do not appear to have made recommendations in regard to program size. However, the above research findings suggest that something much in excess of 60 is probably too impersonal and vulnerable to becoming regimented.

Density

Density refers to the space per child, usually expressed in terms of the square feet per individual. Conditions of high density have been found to be associated with higher rates of caregiver controlling and restricting (Perry, 1977) and lower rates of caregiver and child interaction (Vandell & Powers, 1983). A large number of children in the available space has also been found to have a negative impact on children's behaviour. Children in high density situations when compared to those in lower density programs tend to engage in more aimless unoccupied behaviour (Holloway & Reichhart-Erikson, 1988; Vandell & Powers, 1983), less cooperative or associative play with peers (Smith & Connolly, 1986; Rohe & Nuffer, 1977), to be more aggressive (Smith & Connolly, 1986) and to engage less frequently in activities requiring concentration (Rohe & Nuffer, 1977).

The above findings suggest that high density inhibits social development. The studies by Perry (1977) and Vandell & Powers (1983) indicate that in a full-day preschool program the cut-off point is around 35 to 40 square feet of indoor space per child. The proposed Federal Interagency Day Care Requirements (FIDCR) and the National Association for Early Childhood Education

recommend a minimum of 35 square feet of indoor space. Galinsky (1986) suggests that quality programs should have 75 square feet of useable outdoor space for every child.

Two studies indicate that the relationship between density and caregiver or child behaviour may be curvilinear. Prescott et al. (1967) found that 70-90 square feet of outdoor space and 150 square feet or more were both associated with less caregiver sensitivity and higher rates of child uninvolvment in activities than occurred in situations of 90-150 square feet. Similarly, Shapiro (1975) found that child uninvolvement was greatest in classrooms with less than 30 square feet per child, second highest in classrooms with over 50 square feet per child, and least in classrooms where children had between 30-50 square feet per individual. Shapiro hypothesizes that children are uninvolved in high density situations because crowding causes over-stimulation and difficulty focusing on an activity. In contrast, too much space is overwhelming and uninviting.

Prescott (1981) suggests that the impact of high density may be adjusted by the organization of the space, the provision of opportunities for privacy, and the availability of resources. Rohe & Nuffer (1977) found that adding partitions in a high density situation with four- and five-year olds reduced aggression and increased both constructive activity (versus uninvolvement) and cooperative play with peers. In a comparison of two groups of three- and four-year olds, one in a large open area and the other in the same amount of space but partitioned into smaller areas, Field (1980) found that children in the partitioned area showed
higher rates of peer interaction, associative and cooperative play with peers, and fantasy play. Adding additional equipment resulted in a reduction of competition and conflict in a high density situation studied by Smith & Connolly (1986).

Programming

Research has shown that the presence of organized activities and routines, rather than simply free play, is associated with higher scores on tests of cognitive and/or language skills (Clarke-Stewart & Gruber, 1984; McCartney, 1984; Smith & Connolly, 1986). Clarke-Stewart & Gruber found that there was no relationship between child development and the particular curriculum provided, e.g. Montessori, Piagetian. Therefore, the factor influencing outcome appears to be the provision of an organizational structure, not content per se. Reflecting this, both the Association for Early Childhood Education, Ontario (1988) and the National Association for the Education of Young Children (Galinsky, 1986) recommend that there be formal written program goals for each child and

a structured program.

Programming needs differ with the age of the child. However, regardless of age, toys, equipment, and activities must be developmentally appropriate. There is a growing recognition that school-aged children require a quite different program from preschoolers. Both Alexander (1986) and the Child Welfare League of America (1984) recommend:

- provision of varied opportunities for social, recreational, and cultural activities and self-selection by the children;
- provision for physical activity, preferably outdoors;
- provision of opportunities for children to experience the same sorts of activities that other children of their age not in child care would experience, for example, trips to the library or skating rink, and opportunities for real-life tasks such as making a snack; and
- provision of alcoves or other opportunities for the child to engage in solitary occupations after being in a group situation all day.

Bergstrom (1984) emphasizes the importance of out-of-school time for the development of the other 3Rs - resourcefulness, responsibility, and reliability - in a setting where children can make choices. As noted by Toronto's Ten Plus Committee, after leaving school-aged child care, children "will in all likelihood become 'latch key' children and will need different skills than traditionally taught in day care" (1989, page 4). A particular issue for school-aged child care, especially in regard to older children, is the need to reconcile the child's developmental need for freedom, privacy, and the learning of responsibility with the issue of program liability.

In addition to developmentally appropriate activities, toys, and equipment, quality child care requires cultural appropriateness. In a description of a community-operated Innuit program in Labrador, Canning (1986) notes that many of the activities are similar to any child care program but the books read and stories told depict Innuit legends and northern life. Similarly, many of the games are traditional games of the Innuit. Since grandparents play an important role in the community, efforts are made to involve them in programming, for example, in transmitting local history and legends. Just as it is important to promote the self-esteem and cultural pride of Native children, it is also important to incorporate the stories, songs, and activities of immigrant children in child care programs that they are attending (Cech, 1990).

Staffing patterns

The National Child Care Staffing Study (Whitebook et al. 1990) examined the impact of having only one caregiver in the room from 9 a.m. to 5 p.m. and the practice of overlapping shifts to allow caregivers to exchange information about individual children. Caregivers in centres with a predominant staffing pattern of only one person had lower appropriate caregiving scores than caregivers in centres where they were two to a room. Caregivers in situations with overlapping shifts were rated as more appropriate with infants and toddlers and less detached.

Whitebook et al. comment on the number of situations where staffing was reduced in two-caregiver rooms to one person before 9 a.m. and after 5 p.m. on the rationale that there were fewer children. They did not examine the impact of this staffing pattern. However, key informants expressed the opinion that one way of getting parent involvement in a program is to set aside time at drop-off or pick-up for individual caregiver and parent discussions. A staffing pattern which reduces the number of caregivers at these two times does not allow for this.

Clusters of indicators

Three studies conducted in the United States have examined the issue of whether indicators associated with quality cluster and whether clusters have more impact than individual indicators. Kontos & Fiene (1987) found that treating centre characteristics in clusters produced noticeably stronger effects on measures of children's cognitive, social, and language development than did treating the characteristics singly. They report that:

- director experience and average staff experience combined with group size contributed 18.8 to 18.9% of the variance found in child sociability and 11.2 to 11.3% of the variance in language development as measured by the Adaptive Language Inventory (ALI);
- group size combined with average staff experience and proportion of caregivers with four-year degrees accounted for 13.5 to 13.6% of the variance in child intellectual development as measured by the Classroom Behaviour Inventory (CBI);
- director experience and average staff experience accounted for 10.9% of the variance in child intellectual development on the CBI and 10.9% of the variance in language development on the ALI; and

- group size, average staff experience, and proportion of four-year degrees accounted for 11.2% of the variance on child sociability and 12.9 to 13.0% of the variance on the CBI.

Only one person with a four-year degree in this study had a major (psychology) that was not directly child care-related (for example, early childhood or elementary education). Therefore, the indicator of proportion of caregivers with a four-year degree probably should be identified as the proportion of caregivers with post-secondary school training in early childhood education. The other findings suggest the importance of small group size and experience.

Two studies involved both family- and centre-based child care. Howes (1983) found that caregivers in both settings were more sensitive with and responsive to the children when there were fewer children and more adults in the setting, the environment was designed to be safe and appropriate for children, and the caregiver had little responsibility for housework. The important cluster in the Clarke-Stewart & Gruber (1987) study was a safe, orderly environment, with stimulating toys and equipment, which was organized into activity centres. Both these studies suggest the importance of a child-appropriate setting as opposed to one oriented to adults with resultant tendency to restrict the children's activities for safety or other reasons.

Key informant opinion

a) major program characteristics associated with quality

Thirty-one of the 52 key informants (see Appendix A) identified the caregiver's qualifications as the most important component in quality child care. Discussion usually resulted in identification of the need for caregivers to have specific early childhood education so that they understand children's developmental stages, know how to observe children so as to determine their needs, and have the skills to develop appropriate programming. The major exception was in regard to the need for workers in school-age child care to have a specialized training for that age group.

Other program characteristics identified as very important for quality, in the order of the frequency with which they were identified, were: caregiver-to-child ratio; group size; stability (both of staff in the program and the assignment of the child to the same caregiver); and the involvement of parents. It is a little surprising that provisions for health and safety, the characteristics of the physical plant, and developmentally appropriate programming and materials were not identified as

being priority items with any degree of frequency. Perhaps, as suggested by one person, health and safety and an appropriate physical setting are so universally acknowledged as basic essentials for quality that they are assumed to be "givens".

b) specific needs for different ages

Several people commented that regardless of age, quality is associated with caregivers who understand the child's developmental stage and resultant needs and provide appropriate caregiving. For infants, key informants identified rigorous attention to safety and hygiene as being of paramount importance. It was also suggested that the risk of infections is reduced by keeping the group size four or smaller and by assigning the same caregiver to the infant on a daily basis. Consistency of caregiver was also cited as assisting in the development of the infant's emotional security. There appeared to be consensus among Ontario key informants that the caregiver-to-child ratio for infants should be 1:3 and that this should be sustained throughout the whole day. Finally, it was noted that the developmental needs of infants and toddlers are very different from those of preschoolers. Therefore caregivers for this age group should have specific training to prepare them to look after infants and toddlers.

Preschoolers were identified as requiring more space than infants and toddlers and a greater variety of materials for manipulation and climbing. By this age, a formal articulated curriculum is viewed as desirable.

Key informants' opinions in regard to school-aged child care were very similar to those expressed by Alexander (1986) and the Child Welfare League of America (1984) as described earlier in this chapter. In addition, it was suggested that it is desirable for the school-aged program to have its own space in order to have a sense of permanence. Several people noted that the developmental needs and interests of children age 6 - 8 or 9 are very different from those of older children. Therefore, when at all possible, they should be separated into different groups.

c) special needs children

The general feeling seemed to be that quality is quality and the same basic indicators apply. However, it was also noted that immigrant children are likely to settle in and show better progress in programs where at least one caregiver speaks their language. With physically handicapped

children, a quality program has ramps and wider doors and other building modifications to maximize opportunities for independence. It is also desirable for programs serving these children to have access to consultant support services such as physiotherapy and for the caregivers to have disability-specific training. A key informant working with developmentally handicapped children stressed the importance of placing these children with age-mates, not on the basis of functioning ability. Several people noted that for normalization to work, there must be a ceiling on the number of special needs children in the program.

d) family-based child care

Concern was frequently expressed about the isolation of family-based child care providers. This was seen as making them vulnerable to stress and burn-out with resultant negative impact on their behaviour and the child's experience. Suggestions to combat this isolation and its effects included:

- regular on-site visits by a home visitor who not only has training in early childhood education but also courses in conflict management and adult education/supervision. Concern was expressed that the current caseloads for home visitors are too large to permit them to have sufficient time to provide adequate support to the providers they visit;
- the provision of support via drop-in resource centres, networking, and provisions for time out;
- limits on the number of children any one provider can look after. It was noted that the provider must be able to handle emergencies and this is difficult to do with large groups of children; and
- mandatory training. While it would be inappropriate to expect family-based caregivers to take a two-year community college course there was strong feeling that they should be required to take a basic course which would cover health, nutrition, safety, child development stages, how to program for children, relationships with parents, and small business administration.

Summary

Little research appears to have been undertaken in the areas of health and safety. What has been done suggests that caregiver and child handwashing is the single most important technique for the prevention of infections.

A favourable caregiver-to-child ratio has been associated with appropriate caregiving, caregivers who are sensitive and responsive, who engage in more social stimulation, and who provide more verbal and cognitive stimulation than do caregivers who are responsible for many children. Children in such staffing situations have been found to be more compliant and to engage in less unoccupied behaviour. A large number of children per caregiver has been associated with job dissatisfaction and caregivers who are harsh and/or detached with the children.

Research findings in regard to group size have been contradictory. Five studies reviewed in this paper found that smaller group sizes were associated with positive child outcomes, but two studies found no relationship between group size and child development. On the other hand, research has consistently found that when large and smaller centres are compared, large centres are associated with undesirable caregiver behaviour, such as detachment, and less positive developmental outcomes for children. In a similar fashion, situations of high density have been found to be associated with higher rates of caregiver controlling and restricting behaviours, lower rates of caregiver-child interaction, and higher rates of child negative behaviour such as aggression.

Research has shown that the presence of organized activities and routines, rather than simply free play, is associated with higher scores on tests of language and/or cognitive skills. The important factor appears to be structure, not content per se. Clarke-Stewart & Gruber (1984) found that there was no relationship between child development and the particular curriculum provided, e.g. Montessori, Piagetian. Programming needs differ with the age of the child. In particular, the needs of infants and of school-aged children are quite different from those of preschoolers. In addition to developmentally appropriate activities, toys, and equipment, quality child care requires cultural appropriateness.

CHAPTER VIII

THE ADULT WORK ENVIRONMENT

Background

The indicators of quality in the adult work environment are: wages and benefits; working conditions, such as caregiver-to-child ratio and paid preparation time; and job satisfaction. These have all been found to impact on the quality of the caregiver-child interaction and on child development.

Job satisfaction

The National Child Care Staffing Study (Whitebook et al., 1990) found that the best predictor of job satisfaction was salary and the next best predictor was having time for program preparation during the paid hours of work. Higher salaries were associated with viewing child care as a career, not just a job; feeling challenged in a positive way; having a feeling of job autonomy; and higher job commitment. Paid preparation time was associated with feelings of greater job security; a feeling of having a good relationship with the supervisor or director; and overall satisfaction with working conditions.

This study also found that salary levels had a direct impact on the children. Caregivers earning salaries at the higher end of the range worked in centres where there were higher levels of developmentally appropriate activities for all age groups (infant, toddler, and preschool). Teaching staff earning salaries at the lower end of the range left their jobs at twice the rate of those whose salaries were higher.

Earlier studies report similar results. Maslach & Pines (1977) found in a study involving 83 centre-based caregivers that those with more children per caregiver were more dissatisfied with their job. Provision of opportunities for input into centre policy and program development, regular staff meetings to discuss individual children and/or work issues, and regular provision of a short break in the morning and afternoon were each associated with job satisfaction. Whitebook et al. (1982) interviewed 90 caregivers in 32 centres and found that job dissatisfaction and staff turnover rates were predicted by salaries and caregiver-to-child ratio. In other words, the lower the salary, or the more unfavourable the ratio, the more likely the centre would experience high levels of job

dissatisfaction and staff turnover. In this study, the most frequently cited reasons for turnover were: low pay; unpaid over-time; and lack of opportunity for career advancement.

On the basis of their research, Whitebook et al. (1982) suggest that job satisfaction can be improved by:

- raising salaries;
- increased frontline caregiver involvement in centre decision-making;
- ensuring that caregivers actually receive their 15 minute break each morning and afternoon;
- raising the status of the child care profession by raising public awareness that child care is more than just unskilled work; and
- providing support mechanisms, for example, local associations of child care programs which could share information among themselves.

The impact of job satisfaction and job dissatisfaction

Berk (1985) found that in 12 centres serving three- to five-year olds, caregiver satisfaction with salary, working conditions, and employee policies was associated with caregivers who provided encouragement and guidance to children and activities which would facilitate their verbal development. Caregivers who were dis-satisfied tended to be restrictive and controlling with children.

Haddock & McQueen (1983) compared 21 employees of various children's residential programs who had been found to be abusive with a matched group of 21 non-abusive employees on a standard inventory designed to identify potential to be abusive. The inventory correctly identified 93% of the sample. They also examined job satisfaction and found a significant correlation between job dissatisfaction and history of abusive behaviour. Using the same inventory to measure potential for abusive behaviour, Atten & Milner (1987) studied 152 workers in child care centres. They found a positive correlation between job dis-satisfaction and a score on the inventory which indicated a high potential for abusive behaviour.

Caregiver turnover

Data collected in the United States in 1988 found an annual turnover rate of 41% in child care centres across the country versus a reported turnover rate of 15% a decade earlier (Whitebook at al., 1990). The researchers suggest that this is not simply caregivers moving from one centre to another but, instead, represents a mass exodus from the field. Whitebook et al. hypothesize that this mass exodus is due to caregivers' low status and low salary levels in relationship to their formal education and the perceived lack of opportunities for career advancement. In a Canada-wide survey, Schom-Moffat (1984) found that 24% of her respondents were planning on leaving the child care profession in the near future. This statistic is comparable to the 20% of respondents in a California study who stated that they intended to leave the profession within the next year (Whitebook et al., 1981). The primary reasons cited for leaving the field in the California study were low salaries and little opportunity for advancement.

The impact of turnover

Caregiver turnover rates have been found to impact on centre quality rating, caregiver behaviour, child behaviour, and child development. Phillips et al. (1987a), in a study conducted in Bermuda, found that centres with low staff turnover rates had the highest total scores on the Early Childhood Environment Rating Scale (ECERS). In an American study, higher rates of caregiver turnover were associated with poorer scores on an observation scale of caregiver behaviour which looked at items such as responsiveness (Kontos & Fiene, 1987).

Stability is important for children in child care. Children who have experienced several new child care arrangements have been found to show a less mature level of play with peers when observed in their current setting than children with fewer different placements (Howes & Stewart, 1987), evidence of greater insecurity such as sleeping problems and fearfulness at age six (Moore, 1975), and poorer academic performance relative to perceived ability at the end of grade one (Howes, 1988). Infants and toddlers were found to exhibit less anxiety and stress with caregivers they knew well versus other caregivers from the same centre in both the laboratory Strange Situation test and when dropped off at the centre by their mother (Cummings, 1980).

The National Child Care Staffing Study (Whitebook et al., 1990) found that children in centres with high staff turnover rates spent less time in social interaction with peers and more time in aimless

wandering and also obtained lower scores on a measure of language development than did children in centres with less turnover. However, Phillips et al. (1987a) found that children in centres with higher turnover did better on two measures of language development than did children in centres where the turnover rate was lower. Because of lack of information on actual turnover rates in the two studies, it is not possible to determine if the difference in findings reflects a significant difference in rate. It is possible that the rate in the Phillips et al. study, which was conducted in Bermuda, was less than that found in the large American study simply because there are probably fewer job opportunities in Bermuda.

In summary, salaries and working conditions influence caregiver job satisfaction. This, in turn, influences caregiver behaviour.

Key informant opinion

Key informants in Ontario suggested that the turnover rate in Ontario is probably similar to that reported by Whitebook et al. (1990) for the United States. Almost without exception, Ontario key informants identified low salaries as the major cause not only of qualified people leaving the child care field but also of current difficulties attracting people into child care provision. Lack of opportunities for career advancement was the second most frequently identified cause for people leaving the field. It was suggested that this problem might be addressed by some sort of level system, such as apparently exists in British Columbia and Manitoba, whereby there is a hierarchy of levels of training with salary differentials.

Summary

The National Child Care Staffing Study (Whitebook et al., 1990) found that salary was the best predictor of job satisfaction. Other studies have found that job satisfaction is related to a favourable caregiver-to-child ratio and to the caregiver's opportunities to provide input into centre decision-making. Job satisfaction is associated with positive caregiver behaviours, such as providing encouragement to the children and activities which stimulate language development, while dissatisfaction is associated with high staff turnover rates and caregivers who are abusive.

CHAPTER IX

CONTEXTUAL FACTORS

The contextual factors which impact on quality are: funding; auspices; standards; licensing/sponsorship in family-based child care programs; and parent involvement.

Funding

On the basis of their survey of 227 centres in five different American states, Whitebook et al. (1990) concluded that:

> "better quality centres paid higher wages, had more teachers caring for fewer children, employed better educated and trained staff, had lower teaching staff turnover, and better adult work environments."
>
> (page 112)

This conclusion has a clear financial impact, as does the research discussed in earlier parts of this paper in regard to the association between low wages and caregiver turnover rates and between caregiver-to-child ratio or group size and child development. Quality requires sufficient funds to obtain and retain qualified caregivers, to provide favourable caregiver-to-child ratios and group sizes, and to ensure a safe environment which has adequate amounts of appropriate equipment and materials.

Auspices

Child care programs in Ontario are operated under one of three possible sponsorship arrangements:

- non-profit organization or incorporation;
- for-profit organization or single owner business; and
- municipal government or Indian band.

Programs in the first category may be stand-alone centres, which generally have a voluntary board of directors, or centres which are part of a larger non-profit organization such as the YWCA. For-profit organizations include situations of one person who operates a number of homes, which may or may not be incorporated as a business, and public corporations with share capital and a chain of centres. Sponsored family-based child care homes may be under either non-profit or for-profit auspices.

The operation and public funding of for-profit child care has been a controversial issue for about 20 years. Child care advocates have consistently taken the position that quality is sacrificed when a program has to make a profit. Commercial operators assert that their greater efficiency enables them to provide quality and make a profit (Fooks, 1987; Friendly, 1986; National Council of Welfare, 1988).

a) Canadian research findings

Three Canadian studies have examined the relationship between quality as a global construct and auspices. In a Canada-wide review involving 927 centres, SPR Associates Inc. (1986) asked provincial/territorial government consultants to rate centres in their jurisdiction both relative to government standards and on the basis of a list of 27 factors assumed to be associated with quality (e.g. ratio, staff turnover, safety). The findings were:

- on the overall rating relative to local government standards, 80% of government operated centres were ranked as exceeding basic requirements versus 50% of non-profit centres, 32% of for-profit centres which were not part of a chain, and 29% of for-profit centres which were part of a chain. At the other end of the continuum, 2% of the government operated centres fell short of some provincial standards versus 11% of the non-profit, 25% of non-chain for-profit, and 15% of for-profit chain-operated centres;

- on all ten items related to enhancing child development, on the 27 item list, government-operated and non-profit centres tended to be rated better than for-profit programs. Government centres were generally rated highest on the physical environment and staff qualifications. Government and non-profit centres were similar in respect to caregiver-to-child ratio, caregiver and child interaction, and staff turnover and both were better than either type of for-profit centre;

- each auspice type ranked highest on one or more items related to the centre's ability to serve working parents, for example, flexibility of hours; and

- o government-operated centres ranked higher than non-profit centres, which in turn were ranked higher than for-profit centres, on all measures of administration.

The above study suggests a clear superiority of non-profit over for-profit centres except in regard to meeting the needs of working parents. It should be noted that the evaluation of the centres was done by government officials, not an objective outside person, and these officials may have had a bias in one direction or another.

In an Ontario study, West (1988) examined compliance with the Day Nurseries Act in 431 full-day centres in Metropolitan Toronto. She found that only 13% of the for-profit centres had a clear licence versus 39% of non-profit centres with a community/parent board, 34% of non-profit agency centres, 32% of church-operated centres, and 68% of workplace centres. The most common reason for a provisional licence in all cases was administrative, such as insufficient indoor equipment or lack of written policies. There was no difference between centres on the basis of auspices in regard to the number of serious occurrences which had been reported in the previous year. However, 34% of the for-profit, versus 28% of the church-operated, 23% of the non-profit with a community/parent board, and 13% of the other non-profit agencies, had a complaint lodged against them in the same time period. Violation of the required caregiver-to-child ratio was highest in the for profit sector (54%). Program supervisor visits in the previous year for quality control (e.g. to follow-up on unmet requirements, to investigate a complaint, or to provide consultation) had been made to 63% of the for-profit centres, 57% of the non-profit appointed board centres, 55% of the church-operated centres, 41% of the non-profit agencies, and 31% of the workplace centres. The study by West supports the same general findings reported by SPR Associates Inc.

DeGagne & Gagne (1988) in Quebec compared for-profit and non-profit programs in a study involving all centres in the province. In the previous 12 months there had been complaints found to be valid upon investigation by government officials in 9.7% of the for-profit centres versus 1.9% of the non-profit centres. Twenty-one percent of the complaints against for-profit centres involved caregiver-to-child ratio versus 5.6% in the non-profit.

Other Canadian studies provide information on auspices-related variations in discrete indicators of quality. As noted earlier, Whitebook et al. (1990) found that wages and working conditions were directly associated with caregiver turnover rates. In a Canada-wide random survey of 85

centres, Schom-Moffat (1984) found that caregivers in for-profit centres were receiving 73% of the salary of workers in non-profit centres and 51% of that received by workers in municipal programs. Workers in for-profit centres were also less likely to have a formal grievance procedure, in-service training, or paid preparation time than workers in either non-profit or municipal centres and had, on average, less vacation time. In the Regional Municipality of Hamilton-Wentworth, the Association for Early Childhood Education, Ontario (1986) found in a survey of 177 caregivers in 71 centres that the average hourly salary rate in non-profit centres (including those operated by municipalities) was $7.61 versus $5.47 in for-profit programs.

In the Hamilton-Wentworth study cited above, on average caregivers in non-profit centres had been with their present employer for 3.5 years versus 2 years for workers in for-profit centres. In Quebec, Dumais (1986) found that the 12-month turnover rate was 37% for full-time workers in for-profit centres versus 24% in non-profit programs. DeGagne & Gagne (1988), also in Quebec, found that in a 12-month period 35% of the for-profit centres in the province had a turnover rate of 40% or higher versus 20% of the non-profit centres.

All the above findings taken together strongly support the conclusion that quality is more likely to be found in non-profit than in for-profit centres. The emphasis is on "more likely". There are quality for-profit centres just as there are poor quality non-profit programs. SPR Associates Inc. (1986) in Canada and Kagan & Newton (1989) in the United States have both suggested that the difference usually found between for-profit and non-profit centres is a function of the absence of government subsidy in for-profit programs. The National Child Care Staffing Study (Whitebook et al., 1990) specifically looked at this possibility. This study found that non-profit centres, whether or not they received government funds, had higher scores on both appropriate caregiving and developmentally appropriate activities than did for-profit centres. Whitebook et al. also found that a higher percentage of non-profit centres' budgets were spent on caregivers than was the case for for profit centres and that there was a direct relationship between the proportion of a centre's budget allocated for staffing and both appropriate caregiving and developmentally appropriate activities.

b) American research

The findings of the American research are basically the same as those from Canadian studies. Whitebook et al. (1990) found that the annual turnover rates were higher, working conditions were

poorer, caregivers were less satisfied with their jobs, caregiver educational levels were lower, and caregiver behaviour was more harsh in for-profit centres. Fiene & Melnick (1990), Kontos & Fiene (1986) and Kontos & Stremmel (1988) have all found that non-profit centres obtain higher scores on the Early Childhood Environmental Rating Scale (ECERS) than do for-profit centres. Jorde-Bloom (1989) found that non-profit centres consistently ranked higher than for-profit programs on overall program quality on a measure used for accreditation by the National Association for the Education of Young Children and on a measure of overall organizational climate (e.g. quality of work life).

Standards

The National Child Care Staffing Study (Whitebook et al., 1990) examined how centres that vary with respect to standards or accreditation vary with respect to indicators of quality. The measures were the 1980 Federal Interagency Day Care Requirements (FIDCR) and accreditation by the National Association for the Education of Young Children. When centres meeting all the FIDCR provisions were compared to centres meeting none or only some of the provisions the former were found to:

- pay better salaries to caregivers;
- employ caregivers who had more formal education and more early childhood education;
- have lower turnover rates;
- have higher ratings on developmentally appropriate activity, fewer children per caregiver, and smaller group sizes; and
- have caregivers who were more sensitive, less harsh, and who engaged in more appropriate caregiving.

Children who attended centres meeting all provisions or more than one provision spent less time aimlessly wandering, engaged in a more mature form of peer play, and had higher scores on a standard test of language development than did children in centres that either met none of the FIDCR provisions or only met one of them.

Fourteen of the 227 centres studied by Whitebook et al. (1990) had been accredited by the National Association for the Education of Young Children. In comparison with non-accredited centres,

those with accreditation were found to have the same characteristics noted above for centres which complied with all the FIDCR provisions. These findings support the FIDCR recommendations and the accreditation criteria of the National Association for the Education of Young Children.

The National Child Care Staffing Study notes that the state with the highest regulatory standards, Massachusetts, had a higher proportion of centres which met all or all but one of the FIDCR requirements than did the two states with much lower standards (Georgia and Arizona). This suggests that the presence of high regulatory standards does encourage quality.

Licensing/sponsorship *

In Ontario, family-based child care can be provided by a caregiver who works independently or by one who works under the supervision and sponsorship of an agency. In the latter situation the agency is licensed by the province and provides on-site supervision for all homes it sponsors. In a study which compared 79 Ontario family-based caregivers who were working independently with 161 sponsored caregivers, Pepper & Stuart (1989) found that the sponsored homes obtained significantly higher ratings on the ECERS-derived Day Care Home Environment Rating Scale. Generally the tone and quality of caregiver and child interaction in the sponsored and non-sponsored homes were the same. However, the sponsored homes obtained substantially better scores on items dealing with health and safety, the arrangement of space, the provision of varied activities, and parent relationships.

In British Columbia, individual caregivers who are not working under the sponsorship of an agency can be licensed. Goelman & Pence (1988) compared 24 licensed and 25 unlicensed family-based caregivers and found that the total score and the scores on each subscale of the Day Care Home Environment Rating Scale were higher for the former group. The mean scores on language tests of children in unlicensed homes were significantly lower than the mean scores of age-mates in homes that were licensed. In Vancouver, Pence & Goelman (undated) found that homes with higher scores on the Day Care Home Environment Rating Scale were significantly more likely to

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* In Ontario, sponsorship would refer to a caregiver who was working for a private home day care agency.

be licensed, and to be operated by a caregiver who had taken formal training, belonged to an association of caregivers, and expressed a commitment to remain in child care. The researchers point out that it would be inappropriate to assume that the difference in quality found in the Vancouver and Victoria homes was a function of licensing. Instead, they suggest that women who are more committed to being child care providers are more likely to seek training and to become licensed.

Pence & Goelman (undated) note that neighbourhoods are increasingly less populated during the day with a resultant increased isolation for family-based child care providers. They suggest that it is essential to provide supervision and support for informal caregiver if they are to provide quality care.

American research also supports the value of sponsorship for family-based child care providers. Carew (1979) found that toddlers in unsponsored homes spent more time on their own and appeared to be more unhappy than did toddlers in homes that were sponsored. Both Carew (1979) and Fosburg (1981) found that sponsored caregivers were more involved with the children they were caring for and engaged in more frequent teaching than did unsponsored caregivers. However, Fiene & Melnick (1990) found no difference between sponsored and non-sponsored homes on the mean score of the Family Day Care Rating Scale.

Parent involvement

Parent involvement is a term which can cover a range of activities from parents simply receiving newsletters or attending yearly parent meetings to very active involvement in decision-making. A recent Canadian federal report on child care has commented on the desirability of involving parents in their young children's child care (Cook et al., 1986). Both New Brunswick and Quebec have legislation which requires non-profit child care centres to have parent representatives on their boards of directors. Both provinces are considering requiring for-profit centres to establish parent advisory boards or committees (Edith Doucet, New Brunswick, personal communication; Gagne, 1989). In Quebec, the rationale for the current legislative requirement is the belief that parental involvement in operational decision-making increases the consistency in values and practices between the child care centre and the home and assists the parents to feel that they have not lost control over the education of their children (Guy, 1986). Ontario does not require parents on

centre boards of directors nor the presence of a parent advisory committee.

There appears to have been no research which specifically addresses the impact of parents in a formal advisory or operational decision-making capacity.* Gagne, in her 1989 Quebec government working document supporting parental involvement on boards, could only cite informed opinion which assumes that parental involvement will encourage quality. Similarly, Sissons and Black in a 1989 literature review which included a search for relevant materials regarding parental involvement, did not find any research which specifically examines this issue (Sissons, personal communication). There is research which clearly indicates that a combination of high quality child care and a substantial parent education and/or counselling component results in child development gains in low socioeconomic status children and these gains are maintained over time (Berrueta-Clement et al., 1984; Bronfenbrenner, 1979; Lazar & Darlington, 1982). However, this is the parent as adult learner and/or client, not the parent as decision-maker.

The literature also supports the importance of open and regular parent and caregiver communication (Cook et al., 1986; Smith & Hubbard, 1988). Powell (1980) notes that the young child who is in child care has two key socializing agents, the home and the child care setting. There is great potential for mixed messages to the child if each of these two settings has its own norms and values and operates in isolation from the other. Powell suggests that since the compatibility of two or more social systems depends on the nature of the relations between key members of each, it is essential to have regular parent and caregiver communication to prevent major discontinuity in the child's experience. The **High Quality Child Care Statement of the Association for Early Childhood Education**, Ontario (1988) states that regular parent-caregiver communication is essential for quality and suggests a variety of mechanisms by which it may be accomplished. Some jurisdictions, such as California, require daily parent-caregiver communication and a minimum of twice a year formal conferences between the parent and the caregiver to review the child's progress (California State Department of Education, 1988).

Mayfield (1990) cautions that not enough is yet known about how parental involvement works in relation to preschool programs to warrant sweeping conclusions about its effectiveness or potential. She suggests that when planning parent involvement it is necessary to identify the type of parent

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* The Municipality of Metropolitan Toronto is currently conducting a study to examine the impact of parent advisory committee (Marna Ramsden, personal communications).

being served by the program and their needs, attitudes, interests, and goals in order to determine what level and type of involvement is appropriate for this group of parents in the context of this particular program. Also "many early childhood educators have found that what works best in their programs is to provide for more than one level of parent involvement" (page 247).

The issue of requiring parent participation at the board level was discussed with 14 of the Canadian key informants. A number of people pointed out that the fact parent cooperatives are operated by parents does not mean that all programs should operate this way. The opinion was expressed that parent cooperatives tend to involve highly educated people who are not representative of parents as a group. Specific concerns were that parents in general:

- may not have the time and/or energy to become informed board members, especially if both parents are working or in a single-parent situation. Therefore, the pool of potential candidates is limited if more than token representation is being sought;
- tend to be committed only for the time their child is in the program. This raises the problem of board consistency;
- may lack objectivity, for example, may find it difficult to raise salaries if this means an increase in fees; and
- often do not understand the role and function of the board.

While supporting the idea of parent boards as a means to encourage quality, Edith Doucet (Director of Child Care, New Brunswick, personal communication) noted that it can be very difficult to find parents who are willing to serve in the board capacity. Gagne (1989), reflecting on the experience in Quebec, identifies a number of difficulties in regard to parent involvement on the board. In addition to those identified by Ontario key informants and cited above, she lists parent lack of training to deal with difficult situations, such as union negotiations, and caregiver resistance.

There was agreement among key informants that:

- on-going, open communication between parent and caregiver is essential for consistency and that consistency is desirable for young children; and
- parents have the greatest investment in the child and hence the greatest concern about quality.

This suggests that a mechanism to ensure regular communication between parent and caregiver should be a requirement for all child care programs along with a mechanism to enable parent input into policy and program development on a voluntary basis.

Galinsky (1988) and Powell (1980) both note that positive communication requires caregivers who believe in the importance of information exchange and parent input and have the skills to assist parents to feel free to express their concerns. This requires caregiver training which addresses the importance of the parent and caregiver working together and an explicit requirement for communication with parents in the caregiver's job description. Observational studies show that the most frequent time for information exchange between parent and caregiver is when the child is dropped off or picked up (Galinsky, 1988; Powell, 1977). As noted by several key informants, child care programs tend to reduce the caregiver-to-child ratio at this time on the assumption that there are fewer children. This practice is not conducive to relaxed communication. It was suggested that, at a minimum, centres should be required to maintain the standard ratio in order to permit sufficient staff for informal information exchange and short scheduled conferences between parents and caregivers. As suggested by the Association of Early Childhood Education, Ontario (1988) information exchange about the program may be facilitated by evening parent meetings, bulletin boards, and newsletters. Nova Scotia requires formal parent-caregiver meetings every three months in full-time programs and every six months in part-time programs. The legislation requires parents to be informed in advance and minutes to be posted where all parents can read them. The provincial officials believe that instituting this requirement has cut down on parent complaints (Gregory Gammon, Director of Child Care, personal communication).

A number of key informants expressed concern that parents misunderstand government's ability to guarantee basic safety, let alone quality, because they do not realize that a situation may change considerably between government site visits. It was suggested that there is a need to educate parents that it is their responsibility to check for quality and to assist them to know how to judge if quality exists. There is also a need for a clearly understood and accessible mechanism to receive parent complaints.

Other methods for enabling parents to provide input without taking on full legal responsibility, as in a board, are inclusion in a yearly self-evaluation by the program and/or participation in an advisory committee. California requires all preschool child care programs (both centre- and family-based) which are receiving state funds to involve parents in an annual written evaluation of the

program and the extent to which it meets client needs (California State Department of Education, 1988). A number of Ontario municipalities already have parent advisory committees for each of their municipally-operated programs. Auerbach (1975), in a review of her experience as a consultant to a number of parent advisory committees to municipal child care centres, states that it is essential to recognize that parents require assistance in learning how to participate in an advisory committee and to recognise the extent of the role. She notes that parents tend to resign from advisory committees when their child leaves the program. Therefore, every year there are new parents on the advisory committee and every year the orientation and learning process must be repeated.

Summary

The relationship discussed in earlier chapters between quality and each of caregiver qualifications and caregiver-to-child ratio, and the association between low wages and caregiver turnover rates, underline the need for adequate funding for child care services. The findings of six Canadian studies that for-profit (commercial) status is associated with lower ratings on global measures of quality, higher levels of staff job dissatisfaction, and higher staff turnover rates suggests that quality is more likely to be found in non-profit programs. This conclusion is supported by research from the United States with similar findings. Adherence to high standards, such as those recommended by FIDCR, and/or compliance with the requirements for accreditation, has been found to be associated with positive caregiver behaviours which, in turn, are associated with child well-being. In family-based child care, sponsorship by an agency is associated with homes which receive higher ratings on global measures of quality and caregivers who provide a more stimulating experience for children. There appears to be no research which has examined the impact of parents in an advisory or decision-making role. However, both the professional literature and key informants agree that open and on-going caregiver-parent communication is essential for the child's well-being and development.

CHAPTER X

THE MEASUREMENT AND MAINTENANCE OF QUALITY

Measurement

Ruopp et al. (1979) suggest that assessing quality requires examination of three areas:

- whether the program has the "right" ingredients, for example, trained caregivers, favourable caregiver-to-child ratios, appropriate physical space and equipment;
- the child's experience, for example, the amount and quality of caregiver-child interactions, the extent to which programming is developmentally appropriate; and
- demonstrable outcomes, for example, changes over time in the child's social or language skills.

Traditionally, governments and other decision-makers have relied primarily on the first method, that is, examination of indicators such as caregiver-to-child ratios. This approach is relatively easy since indicators can be defined and measured in a concrete fashion. However, simply having the right ingredients is no guarantee of quality. What really matters is the child's objective and subjective experience and the child's development.

An inference about the child's experience can be made through an examination of the process which is taking place in the child care program. Several key informants suggested that this can be done through the use of standardized observation instruments such as the Early Childhood Environment Rating Scale (Lois Brockman; Carollee Howes; Gwen Morgan; personal communication). Harms & Clifford (1980) report that this scale has an inter-rater reliability* of .86 for classrooms and .93 for individual items. Similar findings are reported by Bjorkman et al. (1986) and McCartney (1984). A centre's total score on the Early Childhood Environment Rating Scale has been found to predict caregiver verbal interaction with children and the degree to which children are rated as being sociable, considerate, and able to focus on a task (Phillips et al., 1987a). The National Association for the Education of Young Children has also produced an observation scale. In a pilot test with 31 centres, the Early Childhood Classroom Observation Scale was found

to have an inter-rater reliability of .86. The total score was highly correlated to caregiver-child interaction and programming, and items related to programming and to interaction also correlated highly with each other (Bredekamp, 1986). The above indicates that there are at least two instruments available for the examination of process. Both have good inter-rater reliability and both measure what they purport to measure.

Determination of outcome is more difficult. As noted earlier in this paper, children's scores on standardized tests are known to be influenced by factors outside the child care setting, for example, socioeconomic status. There are also concerns about repeated testing of young children.

The maintenance of quality

As noted by Lero & Kyle (1985), mechanisms to maintain quality fall into three general categories: regulatory methods; voluntary standards of professional practice; and other non-regulatory methods. The diagram on the following page presents these categories and the various mechanisms that might be included within them.

a) regulatory methods

There is a common assumption that quality child care is most effectively achieved by setting and enforcing standards through licensing. However, licensing simply represents the baseline of what society will tolerate. The extent to which there is any association between quality and licensing depends on the extent to which the requirements for licensing go beyond the threshold below which a child is placed at risk. Similarly, other regulatory systems, such as those concerned with health, fire and safety, and zoning, generally represent the minimum which is compatible with safety.

In spite of the above caveat, the presence of basic standards is essential. They can also be the foundation upon which quality is built. The importance of basic standards is emphasized by Canadian and American findings that children from stressed, disorganized families, the sort of

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* The degree to which two independent observers obtain the same results when observing the same situation. Reliability coefficients range from 0.00, which is no agreement, to 1.00, which is complete agreement.

DIAGRAM 2

MECHANISMS FOR PROMOTING AND SUSTAINING QUALITY CHILD CARE

REGULATORY METHODS

- fiscal regulation *
- licensing or registration
- zoning by-laws
- building standards
- medical officer of health requirements

VOLUNTARY STANDARDS OF PROFESSIONAL PRACTICE

- accreditation
- credentialing **
- peer review
- self review

OTHER NON-REGULATORY METHODS

- public education
- user education
- staff education and training
- parent and/or community advisory committees
- membership in professional associations
- consultation with other professionals
- resource and referral centres

SANCTIONS FOR

- illegal, unlicensed operators
- abusive or neglectful care
- violation of regulations or by-laws

KEY:

* mechanism used by a funding agency, for example a purchase-of-service contract, to define the quality it wishes to purchase

** a method to ensure caregivers have completed certain training and/or have demonstrated specific competencies

Adapted from: Morgan, G. "Regulation: One Approach to Quality Child Care", Young Children, 1979, September, page 26.

family less likely to provide developmentally enhancing experiences, are more likely to be placed in low quality than in high quality child care than are children from families with a higher functioning level (Howes, 1990; Howes & Olenick, 1986; Howes & Stewart, 1987; Goelman & Pence, 1988).

Key informants noted that to be effective, standards pertaining to licensing must be:

- clearly and unambiguously worded;
- deal with indicators known to effect quality;
- observable, measureable, and enforceable; and
- enforced.

Operationalization of licensing standards requires monitoring instruments with high inter-rater reliability. It is also desirable that the instrument be based on specific observable indicators. This not only reduces bias, or concerns that bias might exist, it also informs the program of exactly what is required and can thereby be educational. Pennsylvania developed an instrument based on observable indicators which is of interest since it includes structural items, such as caregiver-to-child ratio, plus items examining the interaction between the caregiver and children. Unfortunately, no data is available on its inter-rater reliability (Children's Services Monitoring Transfer Consortium, 1981, 1985, 1988; Fiene, 1986; Fiene & Nixon, 1985; LaPlante & Fiene, 1987). Saskatchewan is in the first year of two-year pilot test to examine the feasibility of using the Harms & Clifford (1980) Early Childhood Environment Rating Scale as part of its licensing process (Tara Truemener, personal communication). This instrument is based on observable indicators and has high inter-rater reliability.

Carollee Howes (personal communication) states that licensing can only be effective if there is support for the licensing requirements, that is:

- caregiver training which is accessible and affordable;
- monitoring which makes it necessary to adhere to the standards. She, and others, stressed the importance of unscheduled visits by government consultants in addition to scheduled visits; and
- rewards and sanctions.

The representative of the regulatory body, in Ontario the Ministry of Community and Social Services' Program Advisor, is pivotal. This person must be knowledgeable about areas such as child care, health and safety, and legal requirements. To be effective, they require sufficient time to make regular scheduled visits and to drop in unexpectedly to ensure that standards are, in fact, being maintained. Key informants also stressed that non-compliance must be sanctioned, otherwise the government gives the message that the standards and regulations do not matter. It was suggested that sanctions should vary with the offense and might include fines as well as being given a provisional licence or closed.

As noted by Fiene (1986), it is generally assumed that as compliance with child care regulations increases there is a corresponding and equivalent increase in program quality. A series of studies in Pennsylvania suggests that this is not the case. Instead the relationship is curvilinear. Low compliance with Pennsylvania regulations, which apparently are close to FIDCR requirements, does put children at risk, substantial compliance (90 - 97% compliance) has a positive impact on children, but full compliance (100%) does not. Fiene indicates that it is not simply a matter of diminishing returns, "in some cases, children were worse off in full compliant programs than they were in substantially compliant programs" (page 3). When considering this finding it is necessary to remember that Pennsylvania child care standards are stringent. In situations of less stringent standards, 100% compliance may be essential. The Children's Services Monitoring Transfer Consortium has identified the key indicators which appear to be most crucial as being: a hazard free environment; an annual health appraisal for all staff; constant supervision of the children; caregiver-to-child ratio; group size; the director's qualifications; developmentally appropriate programming; and at least 40 square feet of indoor space per child (Children's Services Monitoring Transfer Consortium, 1985).

Fiscal regulation is a mechanism whereby a funding agency can define the level of quality it is prepared to purchase. This may encourage quality by stating standards which are over and above the basic requirements of licensing. As in licensing, to be effective the requirements must be clearly and unambiguously worded, measureable, enforceable, and enforced. Mechanisms which might ordinarily be considered voluntary, such as inservice training, can become mandatory if part of fiscal regulation.

b) voluntary standards of professional practice

Quality can also be encouraged through the development and implementation of professional standards of practice for individuals and for programs. Accreditation is a process by which a representative body, recognized by both the service community and the community in general, establishes standards for services. These standards are above the minimum regulatory requirements of the government. Programs apply on a voluntary basis for evaluation against the standards and, if found to meet or surpass them, are granted a certificate which recognizes this fact. Accreditation is considered valuable in that it articulates a community's agreed upon indicators of quality, provides a goal to aim towards, and recognizes those programs which are providing quality services. The process, which involves self-evaluation followed by a comparison done by trained outside observers, is, in itself, considered educational.

Credentialing is a method which certifies that the individual has completed a specific training program and/or has demonstrated specific competencies. In the United States, the Child Development Associate Program has established certain knowledge and skills required for competent child caregiving and these form the basis of a training and credentialing program. Lero & Kyle, in their 1985 background paper for the Report of the Task Force on Child Care, suggest that this might be a concept worth exploring as a means of obtaining suitable caregivers in rural communities which lack access to community college early childhood education programs.

Self-evaluation is a method which encourages a program to look at what it is doing and where changes need to be made. Kontos & Stevens (1985) field tested the Early Childhood Environment Rating Scale (ECERS) in six centres to determine its usefulness as a self-evaluation tool. They report that the centres found it easy to use
and the specificity of the scales helped people to pinpoint exactly what needed attention. Kontos & Stevens recommend that a self-evaluation using an instrument such as the ECERS be done yearly so that workers can chart their progress and set new goals. The Regional Municipalities of Halton and of York each use the ECERS in this fashion twice a year in their municipally-operated centres (Karen Chan, Halton, and Doreen Gordon, York, personal communication). California requires all state subsidized programs (centre-and family-based) to conduct a yearly self-examination using an instrument designed by the State. Programs are expected to be able to

document that they have a program evaluation plan, have done a self-evaluation within the past year, and have implemented steps to address required changes (California State Department of Education, 1988).

c) non-regulatory methods

Morgan (1980) suggests that public and user education is necessary so that community expectations are raised and government efforts to achieve quality will be supported. As noted earlier, key informants expressed concern that parents do not realize that licensing is not a guarantee of basic safety, let alone quality, and need to be informed about their monitoring responsibilities. However, in order to monitor their child's program, parents need an understanding of what quality is and how to determine whether or not it is present.

The research leaves no doubt about the correlation between formal staff training and quality. However, the acquisition of knowledge should not stop when the person completes their formal program. Research by Black et al. (1981), Goodman & Andrews (1981), Jones & Meisels (1987), Kaplan & Conn (1984), and Whitebook et al. (1990) demonstrates the value of in-service education. The National Association for the Education of Young Children recommends that staff be supported to maintain their a current knowledge of child development and its application in child education programs (Bredekamp, 1987).

Several key informants commented on the value of a supportive structure for caregivers as a means of encouraging quality. Suggestions included:

- the formation of associations by centres or family child care providers to offer opportunities to share information and knowledge, for peer consultation or review, for joint training, and for moral support;
- provision of consultation by other professions, for example, physiotherapy consultation for a program which is looking after a physically handicapped child; and
- establishment of resource centres which would include a lending library of professional journals.

Summary

Ruopp et al. (1979) suggest that measuring quality requires the examination of indicators such as caregiver-to-child ratio, the making of inferences about the child's experience, and determination of outcome. The first is relatively easy since indicators can be defined and measured. Standardized observation instruments, such as the Early Childhood Environment Rating Scale and the Early Childhood Classroom Observation Scale, enable the making of judgements about the process which is taking place. Determination of outcome is more difficult, in part because children's scores on tests to measure development are known to be influenced by factors outside the child care setting.

Mechanisms to maintain quality fall into three general categories: regulatory methods; voluntary standards; and other methods. Regulatory methods include fiscal regulation (e.g. a purchase of service contract), licensing, and municipal by-laws. Voluntary standards include peer review and accreditation. Other methods include public education, user education, parent advisory committees, and membership in professional associations.

GLOSSARY

Aimless wandering

The child is wandering around the setting as opposed to being engaged in a meaningful activity or play. This behaviour has been found to be correlated with poor language development and poor general knowledge (Ruopp et al., 1979).

Appropriate caregiving

As used in the National Child Care Staffing Study (Whitebook et al., 1990), this phrase refers to a group of items derived from the Early Childhood Environment Rating Scale (see description below) which pertain to child-caregiver interactions, supervision, and discipline, and to health and safety practices.

Caregiver-to-child ratio

The number of children per caregiver. A favourable ratio is one where the caregiver is responsible for relatively few children.

Density

The number of square feet of space per child.

Developmentally appropriate activity

As used in the National Child Care Staffing Study (Whitebook et al., 1990), this phrase refers to items such as furnishings, arrangement of physical space, toys and equipment, activities, and policies which are appropriate for the developmental level of the children.

Early Childhood Environment Rating Scale

An instrument which is completed on-site and examines the extent and/or appropriateness of the following program dimensions: personal care routines for children; creative activities; language/reasoning activities; furnishings and equipment and their use; fine and gross motor activities; the stimulation of social development; and the way in which the needs of adults (parents and caregivers) are met.

Informative verbal exchange

A desirable caregiver behaviour which involves activities such as giving explanations and/or reasons when asking a child to do something, explaining activities, reading to the child, and other forms of verbal and cognitive stimulation.

Federal interagency day care requirements (FIDCR)

A set of child care standards issued by the United States' federal government in 1980 and based on extensive consultation with experts in the field. They were intended to establish a threshold of safe care for children in federally subsidized programs. However, they never actually became law.

Mean

A measure of the average score for a sample on a particular variable. It is calculated by taking the sum of all the scores and dividing it by the total number of subjects.

Median

The score on a particular variable which divides the sample into half with 50% of the subjects achieving a score above the median and 50% below it.

Positive caregiver interaction

Caregiver behaviour which is characterized by high levels of positive interaction, e.g. the adult shows active interest in the child's activities, the caregiver provides the child with encouragement.

Responsiveness

Caregivers who are responsive react appropriately and promptly to the child's verbal or non-verbal bids for attention, answer children's questions, initiate activities which are geared to the child's current developmental level, and are sensitive to changes in the child's mood.

Sensitivity

Caregivers who are sensitive are aware of the child's developmental level and current mood and behave in a fashion which is consistent with this awareness.

Sponsorship

In Ontario, family-based child care providers sometimes operate under the sponsorship of an agency. In these situations, the agency matches the child and caregiver and provides on-going supervision.

Statistically significant (or significant)

The research finding of a relationship between two items which is unlikely to have occurred simply by chance. Therefore, it is assumed that the relationship is due to the influence of one item on the other. The lowest level of significance is .05, this means that the probability of the relationship having occurred by chance is less than 5 in 100.

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d) Associations

- Association for Early Childhood Education - Mrs. Carolyn Winter
- Canadian Child Care Federation - Ms Diana Smith
- Canadian Day Care Advocacy Association - Mrs. Suzanne Potvin
- Committee of Councils of Parent Participation - Mrs. Ruth Zant
- Manitoba Child Care Association - Mrs. Dorothy Dudek
- Ontario Coalition for Better Day Care - Ms Janet Davis
- Ontario Municipal Social Services Association (OMSSA) - Mrs Karen Chan (Halton), Ms Sarah Graham (staff), Mrs. Doreen Gordon (York), and Mrs. Jane Van Berkel (Peel)
- Ontario Metis and Aboriginal Association - Ms Toby Turner
- Ontario Native Women's Association - Ms Marlene Pierre
- Private Home Day Care Association of Ontario - Mrs. Leslie Atkinson

e) Other

- Miss Irene Kyle
- Ms Brenda Sissons, "Choosing with Care Project"
- Dr. Karen Oster and Staff - Play and Learn Nursery School
- Mrs. Margaret Pollard - Ontario Association for Community Living
- Mrs. Clara Will and Staff - Adventure Place
- Ms Carolyn Wolpert - Infant Mental Health Promotion Project, Hospital for Sick Children, Toronto

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Appendix B

INTERVIEW PROTOCOL

1. What do you think are the program-specific indicators most associated with quality, e.g. group size, caregiver-to-child ratio?

2. How would you rank program-specific indicators in terms of their relative importance?

3. Are there certain combinations of program-specific indicators which you believe are more important for quality than others?

4. Are there program-specific indicators which are more important:

   - at a certain age, e.g. infants or school-aged
   - in family-based as opposed to centre-based settings
   - for children with certain types of backgrounds, e.g developmentally handicapped children

5. How can program-specific indicators associated with quality be measured?

6. How can program-specific indicators associated with quality be maintained?

7. What contextual factors do you think have an impact on quality?

8. Are you aware of any innovative approaches or models to meet the special needs of:

   - seasonal workers, such as farmers
   - immigrant children